



Department of Labor and Employment

Division of Oil and Public Safety

Remediation Section

633 17th Street, Suite 500

Denver, CO 80202-3660

303-318-8547 (technical assistance)

Website: www.colorado.gov/cdle/remediation

Select One Report from the list:

Monitoring and Remediation Report

Facility ID: 11323

Event ID: 6488

Reporting Period: Qtr 3

Year: 2013

Submittal Date: January 15, 2014

SSF or ISRA submitted:

SCR submitted:

CAP submitted: April 7, 1998

Version 1.2
August 15, 2013



January 2, 2014

Mr. Charles Ochs
Bold Petroleum, Inc.
P.O. Box 603
Colorado Springs, Colorado 80901

Re: 4th Quarter Monitoring & Remediation Report-Acorn Food Store, 305 South 8th Street,
Colorado Springs, CO. Event 6488.

Dear Mr. Ochs,

SITE HISTORY

The Site has operated as a retail fuel station and convenience store since 1968. Adjacent properties include U.S. Highway 24 to the east and north, South 8th Street to the west, and a former hotel facility to the south. The vacant hotel property was recently purchased by the Colorado Department of Transportation (CDOT), who is currently in the process of demolishing the former hotel. Fountain Creek is located near the hotel's southern property boundary, approximately 400 feet south of The Site.

On January 1, 1968, three 6,000 gallon Underground Storage Tanks (USTs) were installed in the eastern portion of the property. These USTs have since been permanently closed and removed from the facility.

On April 7, 1998, three USTs were installed in the western portion of the property. These USTs are currently in operation and consist of the following:

- One 10,000 gallon regular unleaded tank.
- One 8,000 gallon premium unleaded tank.
- One 6,000 gallon diesel tank.

On January 8, 2002, a 6,000 gallon E-85 UST was installed in the former UST tank cavity.

SUBSURFACE GEOLOGY AND AQUIFER CHARACTERISTICS

The native subsurface soil is a Quaternary alluvial deposit consisting of sand and silt with trace clay from approximately 2 to 12 feet below the ground surface (bgs), and sand and gravel from 12 to 14 feet bgs. This deposit overlies the Cretaceous-age Pierre Shale Formation.

The local groundwater flow regime is characterized as a shallow unconfined aquifer with a relatively low hydraulic conductivity. The local groundwater flow direction is predominantly to the south southeast along a gradient of approximately 0.015 ft/ft. Regional groundwater flow is influenced by the Fountain Creek watershed.



GEOLOGIC SERVICES & CONSULTANTS

January 2, 2014

Mr. Charles Ochs

RELEASE INFORMATION

A confirmed release at the site was reported to the Division of Oil and Public Safety (OPS) on April 7, 1998. This release (Event ID #6488) was discovered during a subsurface site investigation being conducted in conjunction with UST removal.

CORRECTIVE ACTION PLAN

Historical Remediation Approach

EDI Services, Inc. (1998-2008)

Source removal activities were conducted in 1998 following UST removal. From March 13, 1998 through April 4, 1998, approximately 4,000 cubic yards of contaminated soil were removed and disposed at a local landfill. A pump & treat system operated from August 15, 2000 through August 15, 2002, treating a total of 8,105,423 gallons of groundwater. Please reference Figures 1a-1d for information regarding remediation activities conducted from 1998-2008.

Geologic Services & Consultants, Inc. (2008-Present)

Twelve enhanced fluid recovery (EFR) events were conducted between November 17, 2008 and April 9, 2009. The purpose of these events was to extract contaminated groundwater, as well as to evaluate the effects of vapor phase extraction. On December 9, 2009, a CAP modification was approved for Air Sparge/Soil Vapor Extraction (AS/SVE) pilot testing, contaminant plume definition, and continued groundwater monitoring. Pilot testing was conducted on April 1, 2010, and supported the use of AS/SVE as an effective remedial method.

On July 1, 2010, a CAP modification was approved for installing and operating a permanent AS/SVE system. System installation began on August 3, 2010 and was completed by September 24, 2010. Installation activities included drilling and completing twelve AS and five SVE points. The AS wells were advanced to approximately 15 feet below the ground surface (bgs), or roughly 5 feet below the static groundwater elevation. SVE wells were advanced to approximately 8 feet bgs, or roughly 2 feet above the static groundwater level.

The system began operating on October 25, 2010, and was shut down on March 28, 2012. From start-up to shut down, the AS and SVE systems operated a total of 11,066 hours and 11,524 hours respectively, removing approximately 2,341 lbs of volatile organic compounds (VOCs).

The AS/SVE system was restarted on September 4, 2012. From system restart through the site visit on September 3, 2013, the AS/SVE system has operated for 8,371 hours and removed approximately 44 lbs of VOCs. The system was shut down during this visit to begin a systematic pulse cycle. On October 9, 2013, the AS system was restarted with one leg (AS Line #4) operating near MW15. Since that date, AS lines #2, #3, and #4 have been pulsed to operate independently for approximately 1-2 weeks at a time. Please reference Figures 4A & 4B for more details regarding the AS/SVE system.

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CAP status

Groundwater data indicates that the AS/SVE system will likely reduce contaminant concentrations in on-site wells and wells near the down-gradient property boundary. However, additional remedial action is necessary to eliminate BTEX contamination remaining on the adjacent property, which is located beyond the influence of the AS/SVE system. The following remedial methods were included in a CAP modification approved on May 23, 2013:

- Complete up to two COGAC injection events consisting of up to 75 points in the former hotel courtyard area. A total of 11,250 lbs of COGAC may be placed.
- Prior to the first injection event, install three temporary monitoring wells to better define the off-site contaminant plume.
- Operation and maintenance of the AS/SVE system, focused on wells MW13 and MW15, from September 2012 through June 2014.

COGAC Injection Event

From November 5 through November 11, 2013, GSC performed the first COGAC injection event. During this event, 52 injection points were completed in the courtyard of the vacant hotel, near monitoring wells MW14, MW18, and MW19. It should be noted that no injection points were completed within 5 feet of a monitoring well. Please reference Figure 7 for COGAC injection point locations.

The COGAC slurry was injected into the subsurface using direct push rod and a rotary diaphragm pump. Most points received approximately 25 gallons of water and 25 lbs of COGAC at 9', 11', and 13' bgs (75 lbs/point). The silt and sand matrix of the receiving formation appears to be ideal for injection, as relatively low injection pressures and high flow rates were experienced. The average injection pressure was 5.66 psi, and the average flow rate was 8.87 gallons/minute. Surfacing of the injection material was encountered on a few points, but was controlled by making slight adjustments to the vertical placement of the injection assembly. A total of 4,000 lbs of COGAC was injected during the event. Please reference the attached Injection Log for more details.

Radius of influence (ROI) was verified during the injection process by monitoring dissolved oxygen concentration, pressure, and sample appearance in target monitoring wells. Injection influence was evident in MW14, MW18, and MW19. Please reference the following tables for ROI information.

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Injection Point #	Injected Volume / Gal	Points Where Influence Was Observed	Separation between IP and ROI marker / ft
IP1	75	MW18	7.0
IP8	75	MW18	8.0
IP16	100	MW14	11
IP17	75	MW14	10
IP20	100	MW14	10
IP34	75	MW19	6.0
IP44	100	MW19	13

Table 1: Injection influence observed at surrounding MW's and IP's

Well ID	Dissolved Oxygen Concentration (mg/L)			Chemical Oxygen Demand (mg/L)	
	Pre-Injection (9/3/13)	During Injection (11/5- 11/11/13)	Post-Injection (12/2/13)	Pre-Injection (1/31-3/4/13)	Post-Injection (12/2/13)
MW14	0.00	2.30	1.21	148	38
MW18	0.00	9.25	1.78	38	34
MW19	0.00	1.75	1.24	100	25

Table 2: DO & COD in pre and post injection samples

Field observations and analytical data indicate that this was a successful COGAC injection. Elevated dissolved oxygen concentrations and a decreased chemical oxygen demand were observed in all targeted monitoring wells. Furthermore, post-injection analytical data indicates that contaminant concentrations were not detected in any wells influenced by COGAC.

GROUNDWATER SAMPLING PROCEDURE

Representatives of GSC visited the on December 2, 2013. During this visit groundwater quality was assessed by monitoring wells MW7, MW10, MW12-MW15, MW18, and MW19. (see attached figures for well locations). Groundwater samples were collected in accordance with procedures outlined in the Colorado Division of Oil and Public Safety's *Petroleum Storage Tank Owner Operator Guidance Document*.

Groundwater samples were delivered under chain-of-custody to Environmental Chemistry Services, 2 Oakwood Park Plaza, Suite 100, Castle Rock, Colorado 80104. Each groundwater sample was analyzed for BTEX using EPA method 8260B. Groundwater analytical data is summarized in Table 1 and Figure 2.



GEOLOGIC SERVICES & CONSULTANTS

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GROUNDWATER MONITORING RESULTS

- Groundwater is flowing in a southeasterly direction, which is consistent with the historical flow direction.
- Laboratory results indicate that BTEX constituent concentrations are below Maximum Contaminant Levels (MCLs) in groundwater samples collected from MW7, MW10, MW14, MW15, MW18, and MW19.
- Benzene concentrations are above MCLs in samples collected from MW12 and MW13.

Please reference the attached tables, figures, and laboratory reports for further details. If you have any questions please do not hesitate to contact us.

Sincerely,
Geologic Services & Consultants, Inc.

Clint Wagner, P.G.
Project Manager

cc: Amber Billing, CDOT (amber.billings@state.co.us)
 Andy Flurkey, CDOT (andy.flurkey@state.co.us)
 Tom Fox, OPS

Site Information

Event ID: 6488

Reporting Period: Qtr 3

Year: 2013

SITE INFORMATION

Site Name:	Acorn 8th Street Food Stre	Business on Site:	Retail Fuel Station	
Site Address:	305 S. 8th Street			
City:	Colorado Springs	County:	El Paso	Zip Code: 80905
Latitude:	38° 49' 46"	Longitude:	-104° 49' 39"	

PROPERTY OWNER INFORMATION

Name:	Bold Petroleum, Inc			
Address:	P.O. Box 603			
City:	Colorado Springs	State:	Colorado	Zip Code: 80901
Phone Number:	719-635-3551	Fax Number:	719-634-8811	
Contact Person:				

RESPONSIBLE PARTY INFORMATION

Name:	Bold Petroleum, Inc			
Address:	P.O. Box 603			
City:	Colorado Springs	State:	Colorado	Zip Code: 80901
Phone Number:	719-635-3551	Fax Number:	719-634-8811	
Contact Person:				

ENVIRONMENTAL CONSULTANT INFORMATION

Name:	Geologic Services & Consultants Inc.			
Address:	2185 Executive Circle			
City:	Colorado Springs	State:	Colorado	Zip Code: 80906
Phone Number:	719-579-8066	Fax Number:	719-579-8028	
Contact Person:	Clint Wagner			

RELEASE INFORMATION

Date Release was Suspected		Date OPS was notified of suspected release	
Date Release was Confirmed	4/7/1998	Date OPS was notified of confirmed release	4/7/1998
Product Released:	RUL	How was Release Discovered:	Site Assessment
Source of Release:	Tank	Quantity in Gallons:	
Cause of Release:			
Provide Brief Description of System Repair:			

PREVIOUS RELEASE INFORMATION

Date of Prior Release	Event ID	Product	Quantity (Gallons)	Source of Release	Date NFA Letter Issued

TANK INFORMATION

		RESPONSE
Is the facility open and actively dispensing fuel?		Yes
If the facility no longer dispenses fuel what is the current use of the property?		
Number of tanks in use (locate tanks, piping, and dispensers on site map)		4
Number of tanks in temporary closure (locate tanks, piping, and dispensers on site map)		
Number of tanks removed (locate tanks, piping, and dispensers on site map)		3
Tanks closed in place (locate tanks, piping, and dispensers on site map)		
Date(s) of tank closure		3/13/1998

SITE LITHOLOGY AND AQUIFER PARAMETERS

		RESPONSE
Predominant lithology in the unsaturated zone		Sandy Silt
Predominant lithology in the saturated zone		Silty Clay
Date of hydraulic conductivity test. Include and label test data in 'Other Documents' tab.		12/10/2007
Hydraulic conductivity of the impacted aquifer in cm/sec (estimated)		7.18E-05
Estimated effective porosity in the saturated zone (%)		20%
Hydraulic gradient		0.0212
Estimated groundwater flow velocity in ft/day (1 cm/sec = approximately 2,835 ft/day)		0.02
General flow direction during this reporting period		SSE
Historically predominant flow direction		SSE

OTHER POTENTIAL SOURCES

		RESPONSE
Are there offsite sources that may account for the contamination found? If yes, detail in the narrative.		No

Exposure Pathways and Receptors

Event ID: 6488

Reporting Period: Qtr 3

Year: 2013

POINTS OF EXPOSURE		THREATENED	IMPACTED	DISTANCE FROM SOURCE (ft)
Property Boundary		yes	yes	40 feet
Surficial Soils		no	no	150 feet
Subsurface Utilities		yes	unknown	90 feet
Structures		yes	no	
Groundwater Wells		no	no	
Surface Water		yes	no	500 feet
Sensitive Environments				

UTILITY	DEPTH TO WATER	DEPTH TO UTILITY	THREATENED	IMPACTED	IDENTIFIED ON POE MAP?
Gas Line	10 feet		no	no	no
Water Line	10 feet		yes	no	yes
Sanitary Sewer Line	10 feet		no	no	no
Storm Sewer Line	10 feet	3 feet	yes	unknown	yes
Communication Line	10 feet		no	no	yes
Other					

Impacted and Potentially Impacted Offsite Properties

Property Address	Property Use	Exposure Pathway	Status	Report Sent to Property Owner?
725 W. Cimarron St.	Vacant Hotel	groundwater ingestion	impacted	yes

EXPOSURE PATHWAYS	ELIMINATED?	REASON
Groundwater (Ingestion)	no	Groundwater contamination above MCLs is off-site
Groundwater (Enclosed Space Vapors)	yes	No occupied structures exist within extent of contamination
Surficial Soil (Ingestion, Ambient Vapors, Particulates, Dermal Contact)	yes	Surficial soil not impacted by release
Subsurface Soil (Enclosed Space Vapors)	yes	No occupied structures exist within extent of contamination
Subsurface Soil (Leaching to Groundwater)	no	Soil contamination above Tier 1 RBSLs exists on-site

All exposure pathways must be eliminated to request an NFA determination

Site Classification

Site Classification	2.7	MTBE Classification	Priority Classification 3

Click on a cell in the section in which you wish
the additional row. Then click "New Row".

Water Well and Surface Water Data Table

Event ID: 6488

Reporting Period: Qtr 3

Year: 2013

Permit Number or Surface Water Designation	Geographic Location (Lat/Long or T/R/S)	Approx Direction From Site	Approx Distance From Site (ft)	Listed Uses	Well Depth	Water Level	Top of Screen	Pumping Rate	Potential Point of Exposure?	Rationale for Elimination
Fountain Creek	14S,67W,SEC13	S	439	NA	NA			NA	Yes	
23489	14S,67W,SEC13	SSW	1780	8	50			3	No	
382	14S,67W,SEC13	W	2123	8	40			10	No	
208400	14S,67W,SEC13	SSE	2224	8,9	35			NA	No	
18720	14S,67W,SEC13	SE	2441	8	33			8	No	
44961	14S,67W,SEC13	NNE	2511	8	NA			NA	No	

Information from the Colorado Division of Water Resources. AT A MINIMUM, input an identifier and the distance from the site.
Indicate any wells or surface water features that are downgradient of the site in bold typeface.

Colorado Division of Water Resources Listed Uses

0 STORAGE	A AUGMENTATION
1 IRRIGATION	B EXPORT FROM BASIN
2 MUNICIPAL	C CUMULATIVE ACCRETION TO RIVER
3 COMMERCIAL	D CUMULATIVE DEPLETION FROM RIVER
4 INDUSTRIAL	E EVAPORATIVE
5 RECREATION	F FEDERAL RESERVED
6 FISHERY	G GEOTHERMAL
7 FIRE	H HOUSEHOLD USE ONLY
8 DOMESTIC	K SNOW MAKING
9 STOCK	M MINIMUM STREAMFLOW
	N NET EFFECT ON RIVER
	P POWER GENERATION
	Q OTHER
	R RECHARGE
	S EXPORT FROM STATE
	T TRANSMOUNTAIN EXPORT
	W WILDLIFE
	X ALL BENEFICIAL USES

Event ID: 6488 Reporting Period: Qtr 3

Groundwater Laboratory and Elevations Table

Year: 2013

Well ID	Date	Water Table Elevation, Corrected for Product Thickness (ft)				Depth to Product Water (ft)	Well Diameter (in)	GW Column above BGS (ft)	Well Status (if not sampled)
		Benzene (mg/L)	Toluene (mg/L)	Ethyl-Benzene (mg/L)	Xylenes (mg/L)				
0	06/18/08	0.0010	0.0010	0.0023	0.0020	0.0010	0.5800	99.51	94.51
MW01	09/15/08	0.0010	0.0010	0.0010	0.0020	0.0010	0.1500	99.51	94.51
MW01	12/04/08	0.0010	0.0010	0.0010	0.0020	0.0010	0.1500	99.51	94.51
MW01	03/12/09	0.0010	0.0010	0.0010	0.0020	0.0010	0.5300	99.51	94.51
MW01	06/08/09	0.0010	0.0010	0.0016	0.0020	0.0010	0.5300	99.51	94.51
MW01	09/14/09	0.0010	0.0010	0.0170	0.0020	0.0010	0.5300	99.51	94.51
MW01	12/21/09	0.0014	0.0010	0.1200	0.0030	0.0010	0.5300	99.51	94.51
MW01	03/30/10	0.0010	0.0010	0.0270	0.0020	0.0010	0.0020	99.51	94.51
MW01	06/29/10	0.0010	0.0010	0.0091	0.0020	0.0010	0.0020	99.51	94.51
MW01	09/30/10	0.0010	0.0010	0.0024	0.0020	0.0010	0.0020	99.51	94.51
MW01	12/15/10	0.0280	0.0010	0.0410	0.0210	0.0110	0.0410	99.51	94.51
MW01	03/21/11	0.0010	0.0010	0.0092	0.0010	0.0010	0.0010	99.51	94.51
MW01	06/07/11	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	99.51	94.51
MW01	09/27/11	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	99.51	94.51
MW01	12/19/11	0.0010	0.0010	0.0190	0.0010	0.0010	0.0010	99.51	94.51
MW01	03/28/12	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	99.51	94.51
MW01	06/27/12	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	99.51	94.51
MW01	09/17/12	0.0010	0.0010	0.0480	0.0010	0.0010	0.0010	99.51	94.51
MW01	12/13/12							99.51	94.51
MW01	03/04/13							99.51	94.51
MW01	06/03/13							99.51	94.51
MW03	06/18/08	0.3400	0.1300	0.3300	0.7500	1.9000	24.0000	98.99	93.99
MW03	09/15/08	1.4000	0.4300	1.6000	3.8000	25.0000	55.0000	98.99	93.99
MW03	12/04/08	0.3600	0.1400	0.6900	1.0000	4.7000	55.0000	98.99	93.99
MW03	03/12/09	0.0300	0.0100	0.0100	0.0200	0.3900	1.8000	98.99	93.99
MW03	06/08/09	0.1700	0.0053	0.2800	0.1400	1.8000	13.0000	98.99	93.99
MW03	09/14/09	0.0200	0.0020	0.0050	0.0040	0.0020	0.0040	98.99	93.99
MW03	12/21/09	0.2300	0.0072	0.3900	0.6000	2.9000	1.8000	98.99	93.99
MW03	03/30/10	0.1300	0.0050	0.1500	0.1300	0.8900	0.1670	98.99	93.99
MW03	04/01/10	0.1400	0.0093	0.1800	0.1700	0.1700	0.0760	98.99	93.99
MW03	06/29/10	0.1400	0.0100	0.1900	0.1600	1.2000	0.0360	98.99	93.99
MW03	09/30/10	0.9100	0.0250	1.4000	1.8000	8.3000	0.0470	98.99	93.99
MW03	12/15/10	0.0150	0.0010	0.0410	0.0080	0.1800	0.0077	98.99	93.99
MW03	03/21/11	0.0036	0.0010	0.0174	0.0010	0.1670	0.0056	98.99	93.99
MW03	06/07/11	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	98.99	93.99
MW03	09/21/11	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	98.99	93.99
MW03	12/13/12	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	98.99	93.99
MW03	03/04/13							98.99	93.99
MW03	06/03/13							98.99	93.99
MW05	06/18/08	0.0010	0.0010	0.0010	0.0020	0.0010	0.2500	98.73	93.73

Click on a cell in the section in which you wish
the additional row. Then click "New Row."

Event ID: 6488 Reporting Period: Qtr 3 Year: 2013

Groundwater Laboratory and Elevations Table

Well ID	Date	Water Table Elevation, Corrected for Product Thickness (ft)				Depth to Product Water (ft)	Product Thickness (ft)	GW Column above BOS (ft)	GW Above TOS	Well Status (if not sampled)
		Benzene (mg/L)	Toluene (mg/L)	Ethyl Benzene (mg/L)	Xylenes (mg/L)					
MW05	09/15/08	0.0010	0.0010	0.00020	0.00010	0.1000	98.73	93.73	2.0	90.98
MW05	12/04/08						98.73	93.73	2.0	91.01
MW05	03/12/09	0.0010	0.0010	0.00020	0.00010	0.1000	98.73	93.73	2.0	91.07
MW05	06/08/09	0.0010	0.0010	0.00020	0.00010	0.1000	98.73	93.73	2.0	91.07
MW05	09/14/09	0.0010	0.0010	0.00020	0.00010	0.1000	98.73	93.73	2.0	91.95
MW05	12/21/09	0.0010	0.0010	0.00020	0.00010	0.1000	98.73	93.73	2.0	91.87
MW05	03/30/10	0.0010	0.0010	0.00020	0.00010	0.1000	98.73	93.73	2.0	91.87
MW05	03/21/11						98.73	93.73	2.0	91.41
MW05	09/27/11						98.73	93.73	2.0	91.83
MW05	09/17/12						98.73	93.73	2.0	92.14
MW05	12/13/12						98.73	93.73	2.0	92.14
MW05	03/04/13						98.73	93.73	2.0	91.83
MW05	06/03/13						98.73	93.73	2.0	91.82
MW06	06/18/08						93.19	88.19	2.0	91.85
MW06	09/15/08	0.0013	0.0010	0.00020	0.00014		93.19	88.19	2.0	91.85
MW06	12/04/08						93.19	88.19	2.0	91.85
MW06	02/05/09	0.0010	0.0010	0.00020	0.00010	0.1600	93.28	89.95	2.0	91.88
MW06	03/12/09	0.0010	0.0010	0.00020	0.00010	0.1000	93.28	89.95	2.0	91.89
MW06	06/08/09	0.0010	0.0010	0.00020	0.00010	0.1000	93.28	89.95	2.0	91.90
MW06	09/14/09	0.0010	0.0010	0.00020	0.00010	0.1000	93.28	89.95	2.0	91.91
MW06	12/21/09	0.0010	0.0010	0.00020	0.00010	0.1000	93.28	89.95	2.0	91.92
MW06	03/30/10	0.0010	0.0010	0.00020	0.00010	0.1000	93.28	89.95	2.0	91.93
MW06	03/21/11						93.28	89.95	2.0	91.94
MW06	09/22/11						93.28	89.95	2.0	91.95
MW06	09/17/12						93.28	89.95	2.0	91.96
MW06	12/13/12						93.28	89.95	2.0	91.97
MW06	03/04/13						93.28	89.95	2.0	91.98
MW06	06/03/13						93.28	89.95	2.0	91.99
MW06	09/03/13						93.28	89.95	2.0	91.99
MW07	06/18/08						94.12	89.12	2.0	91.98
MW07	09/15/08	0.0010	0.0010	0.00020	0.00010	0.1000	94.12	89.12	2.0	91.99
MW07	06/03/09	0.0010	0.0010	0.00020	0.00010	0.1000	94.12	89.12	2.0	91.99
MW07	09/08/09	0.0010	0.0010	0.00020	0.00010	0.1000	94.12	89.12	2.0	91.99
MW07	09/14/09	0.0010	0.0010	0.00020	0.00010	0.1000	94.12	89.12	2.0	91.99
MW07	12/21/09	0.0010	0.0010	0.00020	0.00010	0.1000	94.12	89.12	2.0	91.99
MW07	03/30/10	0.0010	0.0010	0.00020	0.00010	0.1000	94.12	89.12	2.0	91.99
MW07	06/29/10	0.0010	0.0010	0.00020	0.00010	0.1000	94.12	89.12	2.0	91.99
MW07	09/30/10	0.0010	0.0010	0.00020	0.00010	0.1000	94.12	89.12	2.0	91.99
MW07	12/15/10	0.0010	0.0010	0.00020	0.00010	0.1000	94.12	89.12	2.0	91.99
MW07	03/21/11	0.0010	0.0010	0.00020	0.00010	0.1000	94.12	89.12	2.0	92.00
MW07	06/07/11	0.0010	0.0010	0.00020	0.00010	0.1000	94.12	89.12	2.0	92.01
MW07	09/27/11	0.0010	0.0010	0.00020	0.00010	0.1000	94.12	89.12	2.0	92.01
MW07	12/19/11	0.0010	0.0010	0.00020	0.00010	0.1000	94.12	89.12	2.0	92.01

Event ID: 6488

Reporting Period: Qtr 3

Groundwater Laboratory and Elevations Table

Year: 2013

Well ID	Date	Water Table Elevation, Corrected for Product Thickness (ft)			Depth to Water Table (ft)			GW Column above EOS (ft)	GW Above TOS (ft)	Well Status (if not sampled)
		Benzene (mg/L)	Toluene (mg/L)	Ethy-Benzene (mg/L)	Xylenes (mg/L)	TOC (mg/L)	TSPH (mg/L)	MTBE (mg/L)		
MW07	03/28/08	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	94.12	89.12	79.12
MW07	06/27/12	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	94.12	89.12	79.12
MW07	09/17/12	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	94.12	89.12	79.12
MW07	12/13/12	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	94.12	89.12	79.12
MW07	03/04/13	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	94.12	89.12	79.12
MW07	06/03/13	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	94.12	89.12	79.12
MW07	09/03/13	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	94.12	89.12	79.12
MW07	12/02/13	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	94.12	89.12	79.12
MW08	06/18/08	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	95.32	90.32	80.32
MW08	09/15/08	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	95.32	90.32	80.32
MW08	12/04/08	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	95.32	90.32	80.32
MW08	03/12/09	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	95.32	90.32	80.32
MW08	06/08/09							95.32	90.32	80.32
MW08	09/14/09							95.32	90.32	80.32
MW08	12/21/09	0.0010	0.0010	0.0010	0.0010	0.0020	0.0010	95.32	90.32	80.32
MW08	03/30/10	0.0010	0.0010	0.0010	0.0010	0.0020	0.0010	95.32	90.32	80.32
MW08	06/29/10	0.0010	0.0010	0.0010	0.0010	0.0020	0.0010	95.32	90.32	80.32
MW08	09/30/10	0.0010	0.0010	0.0010	0.0010	0.0020	0.0010	95.32	90.32	80.32
MW08	12/15/10	0.0010	0.0010	0.0010	0.0010	0.0020	0.0010	95.32	90.32	80.32
MW08	03/21/11	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	95.32	90.32	80.32
MW08	06/07/11	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	95.32	90.32	80.32
MW08	09/27/11	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	95.32	90.32	80.32
MW08	12/19/11	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	95.32	90.32	80.32
MW08	03/28/12	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	95.32	90.32	80.32
MW08	06/27/12	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	95.32	90.32	80.32
MW08	09/17/12	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	95.32	90.32	80.32
MW08	12/13/12							95.32	90.32	80.32
MW08	03/04/13							95.32	90.32	80.32
MW08	06/03/13							95.32	90.32	80.32
MW08	09/03/13							95.32	90.32	80.32
MW08	12/21/09	0.1800	0.0010	0.1700	0.0130	0.3300	0.3000	97.40	92.40	87.40
MW08	09/15/08	0.2500	0.0010	0.1800	0.0280	0.3500		97.40	92.40	87.40
MW08	12/04/08							97.40	92.40	87.40
MW08	03/12/09	0.2400	0.0100	0.0250	0.6200	0.1400		97.40	92.40	87.40
MW08	06/08/09	0.0120	0.0120	0.0110	0.0010	0.0092	0.6500	97.40	92.40	87.40
MW08	09/14/09	0.0920	0.0010	0.1100	0.0022	0.0320		97.40	92.40	87.40
MW08	12/21/09	0.0180	0.0010	0.0250	0.0020	0.0150		97.40	92.40	87.40
MW08	03/30/10	0.0240	0.0010	0.0220	0.0020	0.0400		97.40	92.40	87.40
MW08	04/01/10	0.0010	0.0010	0.0010	0.0020	0.0059		97.40	92.40	87.40
MW08	06/28/10	0.0067	0.0010	0.0010	0.0020	0.0340		97.40	92.40	87.40
MW08	09/30/10	0.0310	0.0010	0.0490	0.0020	0.0300		97.40	92.40	87.40
MW08	12/15/10	0.0170	0.0010	0.0150	0.0042	0.0150		97.40	92.40	87.40
MW08	03/21/11	0.0105	0.0010	0.0266	0.0010	0.0323		97.40	92.40	87.40
MW08	06/07/11	0.0084	0.0010	0.0190	0.0010	0.0160		97.40	92.40	87.40
MW08	09/27/11	0.0010	0.0010	0.0010	0.0010	0.0082		97.40	92.40	87.40

Groundwater Laboratory and Elevations Table

Event ID: 6488 Reporting Period: Qtr 3 Year: 2013

Click on a cell in the section in which you wish
the additional row. Then click "New Row".

Well ID.	Date	Water Table Elevation Corrected for Product Thickness (ft)				GW Column above BOS (ft)	GW Above TOS (ft)	Well Status (if not sampled)
		Benzene (mg/L)	Toluene (mg/L)	Ethyl Benzene (mg/L)	Xylenes (mg/L)			
MW10	12/19/11	0.0010	0.0010	0.0010	0.0010	97.40	92.40	87.40
MW10	03/28/12	0.0010	0.0010	0.0010	0.0010	97.40	92.40	87.40
MW10	06/27/12	0.0010	0.0010	0.0010	0.0010	97.40	92.40	87.40
MW10	09/17/12	0.0010	0.0010	0.0010	0.0010	97.40	92.40	87.40
MW10	12/13/12	0.0010	0.0010	0.0010	0.0010	97.40	92.40	87.40
MW10	03/04/13	0.0010	0.0010	0.0010	0.0010	97.40	92.40	87.40
MW10	06/03/13	0.0010	0.0010	0.0010	0.0010	97.40	92.40	87.40
MW10	09/03/13	0.0010	0.0010	0.0010	0.0010	97.40	92.40	87.40
MW10	12/02/13	0.0010	0.0010	0.0010	0.0010	97.40	92.40	87.40
MW11	02/05/09	0.0010	0.0010	0.0002	0.0010	96.81	92.86	77.86
MW11	03/12/09	0.0010	0.0010	0.0020	0.0010	96.81	92.86	77.86
MW11	06/08/09	0.0010	0.0010	0.0020	0.0010	96.81	92.86	77.86
MW11	09/14/09					96.81	92.86	77.86
MW11	12/21/09	0.0010	0.0010	0.0010	0.0010	96.81	92.86	77.86
MW11	03/30/10	0.0010	0.0010	0.0020	0.0010	96.81	92.86	77.86
MW11	06/29/10	0.0010	0.0010	0.0020	0.0010	96.81	92.86	77.86
MW11	09/29/10	0.0010	0.0010	0.0020	0.0010	96.81	92.86	77.86
MW11	12/15/10	0.0010	0.0010	0.0020	0.0010	96.81	92.86	77.86
MW11	03/21/11	0.0010	0.0010	0.0010	0.0010	96.81	92.86	77.86
MW11	06/07/11	0.0010	0.0010	0.0010	0.0010	96.81	92.86	77.86
MW11	09/27/11	0.0010	0.0010	0.0010	0.0010	96.81	92.86	77.86
MW11	12/19/11	0.0010	0.0010	0.0010	0.0010	96.81	92.86	77.86
MW11	03/28/12	0.0010	0.0010	0.0010	0.0010	96.81	92.86	77.86
MW11	06/27/12	0.0010	0.0010	0.0010	0.0010	96.81	92.86	77.86
MW11	09/17/12	0.0010	0.0010	0.0010	0.0010	96.81	92.86	77.86
MW11	12/13/12					96.81	92.86	77.86
MW11	03/04/13					96.81	92.86	77.86
MW11	06/03/13					96.81	92.86	77.86
MW12	03/12/09	0.0300	0.0222	0.0140	0.02500	97.04	92.79	77.79
MW12	06/08/09	0.4300	0.0570	0.0660	0.1400	97.04	92.79	77.79
MW12	09/14/09	0.6800	0.0910	0.1400	0.3800	97.04	92.79	77.79
MW12	12/21/09	0.0560	0.0026	0.0029	0.0445	0.1700	97.04	92.79
MW12	03/30/10	0.1200	0.0044	0.0080	0.0330	0.2100	97.04	92.79
MW12	04/01/10	0.0850	0.0054	0.0010	0.0210		97.04	92.79
MW12	06/29/10	0.3500	0.0150	0.0140	0.0440	0.4500	97.04	92.79
MW12	09/30/10	0.1800	0.0089	0.0270	0.1200	0.2300	97.04	92.79
MW12	12/15/10	0.6100	0.1300	0.1400	0.4100	0.6000	97.04	92.79
MW12	03/21/11	0.0461	0.0524	0.0194	0.1150	0.1350	97.04	92.79
MW12	06/07/11	0.0300	0.0069	0.0010	0.0370	0.2600	97.04	92.79
MW12	09/27/11	0.0610	0.0100	0.0120	0.0120	0.3500	97.04	92.79
MW12	12/19/11	0.0570	0.0010	0.0120	0.3700	0.1300	97.04	92.79
MW12	03/28/12	0.0010	0.0010	0.0010	0.0990		97.04	92.79
MW12	06/27/12	0.0470	0.0010	0.0010	0.1300		97.04	92.79
MW12	09/17/12	0.0025	0.0010	0.0010	0.0010		97.04	92.79

Groundwater Laboratory and Elevations Table

Year: 2013

Reporting Period: Qtr 3

Event ID: 6488

Click on a cell in the section in which you wish
the additional row. Then click "New Row".

Well ID	Date	Water Table Elevation, Connected for Product Thickness (ft)				Depth to Product (ft)	Product Thickness (ft)	GW Column above BOS (ft)	Well Status (if not sampled)
		Benzene (mg/L)	Toluene (mg/L)	Ethyl-Benzene (mg/L)	Xylenes (mg/L)				
MW12	12/13/12	0.0010	0.0010	0.0010	0.0010	97.04	92.79	77.79	2.0
MW12	03/04/13	0.0044	0.0010	0.0010	0.0010	97.04	92.79	77.79	2.0
MW12	06/03/13	0.0460	0.0010	0.0200	0.0010	97.04	92.79	77.79	2.0
MW12	09/03/13	0.0310	0.0010	0.0046	0.0010	97.04	92.79	77.79	2.0
MW12	12/02/13	0.0390	0.0010	0.0091	0.0010	97.04	92.79	77.79	2.0
MW13	02/05/09	0.1900	0.1400	0.5600	0.2500	97.57	95.03	80.03	2.0
MW13	03/12/09	0.5800	0.1500	0.4800	0.1400	97.57	95.03	80.03	2.0
MW13	06/08/09	0.0480	0.0024	0.0140	0.0260	0.0460	5.3000	97.57	95.03
MW13	09/14/09	0.0970	0.0010	0.0420	0.0180	0.0250		97.57	95.03
MW13	12/21/09	0.0280	0.0010	0.0094	0.0020	0.0360		97.57	95.03
MW13	03/30/10	0.0240	0.0010	0.0041	0.0020	0.0210		97.57	95.03
MW13	06/29/10	0.0740	0.0010	0.0110	0.0020	0.0290		97.57	95.03
MW13	09/30/10	0.0920	0.0010	0.0110	0.0020	0.1400		97.57	95.03
MW13	12/15/10	0.6400	0.0620	0.1900	0.2200	0.2100		97.57	95.03
MW13	03/21/11	0.1080	0.0880	0.0891	0.6220	0.4440		97.57	95.03
MW13	06/07/11	0.1500	0.0048	0.0210	0.1800	0.5500		97.57	95.03
MW13	09/27/11	0.0920	0.0010	0.0010	0.0010	0.1400		97.57	95.03
MW13	12/19/11	0.5300	0.0064	0.0840	0.0010	0.0830		97.57	95.03
MW13	03/28/12	0.6000	0.0052	0.0010	0.0280	0.0940		97.57	95.03
MW13	06/27/12	0.1700	0.0010	0.0010	0.0010	0.0360		97.57	95.03
MW13	09/17/12	0.1800	0.0010	0.0010	0.0010	0.0550		97.57	95.03
MW13	12/13/12	0.0150	0.0010	0.0010	0.0109	0.0182		97.57	95.03
MW13	03/04/13	0.0669	0.0024	0.0047	0.0047	0.0060		97.57	95.03
MW13	06/03/13	0.0570	0.0022	0.0022	0.0023	0.0087		97.57	95.03
MW13	12/02/13	0.0150	0.0022	0.0022	0.0070	0.0280	0.0130	97.57	95.03
MW14	03/30/10	0.0110	0.0022	0.0022	0.0070	0.0280		97.57	95.03
MW14	06/29/10	0.0120	0.0010	0.0010	0.0650	0.0031	0.0210	97.57	95.03
MW14	09/30/10	0.0130	0.0010	0.0050	0.0023	0.0130		97.57	95.03
MW14	12/15/10	0.0380	0.0019	0.1400	0.0047	0.0099		97.57	95.03
MW14	03/21/11	0.1230	0.0040	0.0764	0.0010	0.0136		97.57	95.03
MW14	06/07/11	0.0750	0.0010	0.0140	0.0010	0.0010		97.57	95.03
MW14	09/27/11	0.0950	0.0055	0.0390	0.0010	0.0088		97.57	95.03
MW14	12/19/11	0.1700	0.0010	0.0100	0.0020	0.0200		97.57	95.03
MW14	03/28/12	0.1400	0.0010	0.0160	0.0010	0.0100		97.57	95.03
MW14	06/27/12	0.1500	0.0010	0.0010	0.0010	0.0110		97.57	95.03
MW14	09/17/12	0.1900	0.0049	0.0057	0.0010	0.0057		97.57	95.03
MW14	12/13/12	0.2800	0.0010	0.0010	0.0010	0.0010		97.57	95.03
MW14	03/04/13	0.2120	0.0020	0.0406	0.0020	0.0020		97.57	95.03
MW14	06/03/13	0.1100	0.0010	0.0160	0.0010	0.0010		97.57	95.03
MW14	09/03/13	0.1100	0.0010	0.0010	0.0010	0.0010		97.57	95.03
MW14	12/02/13	0.0010	0.0010	0.0010	0.0010	0.0010		97.57	95.03
MW15	03/30/10	0.5500	0.0950	0.8300	3.2000	0.4700		98.70	95.70
MW15	06/29/10	0.5200	0.0260	0.4500	1.7000	0.5800		98.70	95.70
MW15	09/30/10	0.4600	0.0200	0.4000	0.7100	0.4000		98.70	95.70

Event ID: 6488

Reporting Period: Qtr 3

Groundwater Laboratory and Elevations Table

Year: 2013

Click on a cell in the section in which you wish
the additional row. Then click "New Row".

Well ID	Date	Water Table Elevation, Corrected for Product Thickness (ft)				GW Column above EOS (ft)	GW Above TOS (ft)	Well Status (if not sampled)
		Benzene (mg/L)	Toluene (mg/L)	Ethyl Benzene (mg/L)	Xylenes (mg/L)			
MW15	12/15/10	1.3000	0.0400	1.8000	1.2000		98.70	85.70
MW15	03/21/11	0.3380	0.0057	0.5020	0.2720		98.70	95.70
MW15	06/07/11	0.1200	0.0010	0.0310	0.1100		98.70	95.70
MW15	09/27/11	0.0940	0.0010	0.0010	0.0000		98.70	95.70
MW15	12/19/11	0.2700	0.0010	0.1400	0.0330		98.70	95.70
MW15	03/28/12	0.3100	0.0010	0.0460	0.0670		98.70	95.70
MW15	06/27/12	0.4800	0.0057	0.1200	0.2200		98.70	95.70
MW15	09/17/12	0.2300	0.0036	0.2800	0.1700		98.70	95.70
MW15	12/13/12	0.3000	0.0010	0.0350	0.0980		98.70	95.70
MW15	03/04/13	0.0020	0.0010	0.0010	0.0010		98.70	95.70
MW15	06/03/13	0.0850	0.0010	0.1300	0.0100		98.70	95.70
MW15	09/03/13	0.0290	0.0010	0.0370	0.0010		98.70	95.70
MW15	12/02/13	0.0031	0.0010	0.0014	0.0010		98.70	95.70
MW16	03/30/10	0.0010	0.0010	0.0072	0.0020	0.0010	97.22	84.22
MW16	06/29/10	0.0010	0.0010	0.0020	0.0020	0.0010	97.22	84.22
MW16	09/30/10	0.0010	0.0010	0.0010	0.0020	0.0010	97.22	84.22
MW16	12/15/10	0.0010	0.0010	0.0018	0.0020	0.0010	97.22	84.22
MW16	03/21/11	0.0137	0.0038	0.0022	0.0170	0.0490	97.22	84.22
MW16	06/07/11	0.0010	0.0010	0.0010	0.0560		97.22	84.22
MW16	09/27/11	0.0010	0.0010	0.0010	0.0010		97.22	84.22
MW16	12/19/11	0.0010	0.0010	0.0010	0.0010		97.22	84.22
MW16	03/28/12	0.0010	0.0010	0.0010	0.0010		97.22	84.22
MW16	06/27/12	0.0010	0.0010	0.0010	0.0010		97.22	84.22
MW16	09/17/12	0.0010	0.0010	0.0010	0.0010		97.22	84.22
MW16	12/13/12	0.0010	0.0010	0.0010	0.0010		97.22	84.22
MW16	03/04/13	0.0010	0.0010	0.0010	0.0010		97.22	84.22
MW16	06/03/13	0.0010	0.0010	0.0010	0.0010		97.22	84.22
MW16	09/03/13	0.0122	0.0010	0.0550	0.0044	0.0012	97.22	84.22
MW17	03/30/10	0.0200	0.0010	0.0730	0.0068	0.0010	96.95	93.95
MW17	06/29/10	0.0480	0.0016	0.0730	0.0320	0.0018	96.95	93.95
MW17	09/30/10	0.0520	0.0010	0.0320	0.0010	0.0018	96.95	93.95
MW17	12/15/10	0.0380	0.0011	0.1300	0.0020	0.0010	96.95	93.95
MW17	03/21/11	0.0010	0.0010	0.0010	0.0010	0.0010	96.95	93.95
MW17	06/07/11	0.0122	0.0010	0.03600	0.0056	0.0040	96.95	93.95
MW17	09/17/12	0.0010	0.0010	0.0870	0.0010	0.0010	96.95	93.95
MW17	12/13/12	0.0010	0.0010	0.0010	0.0010	0.0010	96.95	93.95
MW17	03/04/13	0.0010	0.0010	0.0010	0.0010	0.0010	96.95	93.95
MW17	06/03/13	0.0010	0.0010	0.0010	0.0010	0.0010	96.95	93.95
MW17	09/03/13	0.0010	0.0010	0.0010	0.0010	0.0010	96.95	93.95
MW17	01/31/13	0.0390	0.0010	0.0010	0.0010	0.0010	97.40	82.40

Event ID: 6488 Reporting Period: Qtr 3

Groundwater Laboratory and Elevations Table

Year: 2013

Click on a cell in the section in which you wish the additional row. Then click "New Row".														
Well ID	Date	Benzene (mg/L)	Toluene (mg/L)	Ethy- Benzene (mg/L)	Xylenes (mg/L)	MTBE (mg/L)	TVPH (mg/L)	TOC (ft)	TOS (ft)	Depth to Product Thickness (ft)	Product Thickness (ft)	GW Column above BOS (ft)	GW Above TOS	Well Status (if not sampled)
MW18	03/04/13	0.0754	0.0059	0.0035	0.0020	0.0010		97.40	92.40	2.0	86.62	10.78	0	no
MW18	06/03/13	0.0520	0.0045	0.0200				97.40	92.40	2.0	86.23	11.17	0	no
MW18	09/03/13	0.0540	0.0010	0.0010	0.0010			97.40	92.40	2.0	86.22	11.18	0	no
MW18	12/02/13	0.0010	0.0010	0.0010	0.0010			97.40	92.40	2.0	86.79	10.61	0	no
MW19	01/31/13	0.0150	0.0230	0.2000	0.6300			95.94	90.94	2.0	84.58	11.36	0	no
MW19	03/04/13	0.0211	0.0107	0.2050	0.3400			95.94	90.94	2.0	84.53	11.41	0	no
MW19	06/03/13	0.0010	0.0010	0.0010	0.0010			95.94	90.94	2.0	84.17	11.77	0	no
MW19	09/03/13	0.0052	0.0010	0.2000	0.4300			95.94	90.94	2.0	84.31	11.63	0	no
MW19	12/02/13	0.0010	0.0010	0.0010	0.0010			95.94	90.94	2.0	84.64	11.30	0	no
MW20	01/31/13	0.0010	0.0010	0.0036	0.0081			94.82	89.82	2.0	85.41	9.41	0	no
MW20	03/04/13	0.0010	0.0010	0.0010	0.0010			94.82	89.82	2.0	85.50	9.32	0	no
MW20	06/03/13	0.0010	0.0010	0.0010	0.0010			94.82	89.82	2.0	85.09	9.73	0	no
MW20	09/03/13	0.0010	0.0010	0.0010	0.0010			94.82	89.82	2.0	85.12	9.70	0	no

If concentration is less than the stated laboratory detection limit, list the detection limit (not ND); e.g. 0.0005

DRY =Dry

DES =Destroyed

INA =Inaccessible (mention why in the narrative)

NOP =Not on Monitoring Plan

FP =Free Product Present

TOC = Surveyed elevation top of casing

TOS = Elevation top of screen

BOS = Elevation bottom of screen

mg/L = milligrams per liter

Event ID: 6488

Reporting Period: Qtr 3

Secondary Groundwater Parameters Table

Year: 2013

Click on a cell in the section in which you wish
the additional row. Then click "New Row".

Sample Location	Date	Dissolved Oxygen (mg/L)	Temp (°C)	pH	Specific Conductance ($\mu\text{S}/\text{cm}$)	ORP (mV)	NO ₃ (mg/L)	Total Fe (mg/L)	Fe ²⁺ (mg/L)	SO ₄ ²⁻ (mg/L)	Alkalinity (mg/L)	COD (mg/L)	Other (units)
MW01	06/18/08	3.54	22.0	7.8			52.0						
MW01	09/15/08	1.26	21.6	8.1			-14.0						
MW01	12/04/08	2.88	7.6	7.0			112.0						
MW01	03/12/09	6.32	12.7	7.4			69.0						
MW01	06/08/09	5.58	15.8	8.4			24.0						
MW01	09/14/09	2.14	19.9	7.3			82.0						
MW01	12/21/09	3.08	12.6	6.9			Ur						
MW01	03/30/10	4.98	13.1	7.6			-39.0						
MW01	06/29/10	4.57	20.0	7.2			17.0						
MW01	09/30/10	4.54	20.4	7.4			-46.0						
MW01	12/15/10	3.48	14.2	6.7			45.0						
MW01	03/21/11	2.70	13.4	7.0			-42.0						
MW01	06/07/11	5.69	15.6	7.3			-40.0						
MW01	09/27/11	3.45	29.1	7.1			-102.0						
MW01	12/19/11	1.58	10.7	6.9			-21.0						
MW01	03/28/12	3.82	16.8	7.2			1741.0						
MW01	06/27/12	3.58	19.9	6.8			-68.0						
MW01	09/17/12	1.49	21.0	6.9			1377.0						
MW03	06/18/08	3.82	21.7	7.0			54.0						
MW03	09/15/08	1.11	20.9	8.0			28.0						
MW03	12/04/08	2.40	8.9	7.0			118.0						
MW03	03/12/09	1.40	13.0	8.0			51.0						
MW03	06/08/09	2.81	16.3	7.8			23.0						
MW03	09/14/09	2.47	19.8	7.3			65.0						
MW03	12/21/09	1.51	15.4	7.5			-36.0						
MW03	03/30/10	0.77	14.2	7.6			-70.0						
MW03	06/29/10	0.40	18.1	7.2			-41.0						
MW03	09/30/10	0.83	19.9	7.4			-32.0						
MW03	12/15/10	0.29	17.7	6.8			4.0						

Event ID: 6488

Secondary Groundwater Parameters Table

Year: 2013

Reporting Period: Qtr. 3

Click on a cell in the section in which you wish
the additional row. Then click "New Row".

Sample Location	Date	Dissolved Oxygen (mg/L)	Temp (°C)	pH	Specific Conductance (µS/cm)	ORP (mV)	NO3 (mg/L)	Total Fe (mg/L)	Fe2+ (mg/L)	SO4^2- (mg/L)	Alkalinity (mg/L)	CCD (mg/L)	Other* (units)
MW03	03/21/11	0.60	14.1	7.2			6.0						
MW03	06/07/11	1.39	20.0	7.6			-37.0						
MW03	09/27/11	1.79	22.5	7.3			-24.0						
MW03	12/19/11	1.29	14.6	7.6			-44.0						
MW03	03/28/12	1.16	15.6	7.5		2061.0	-89.9						
MW03	06/27/12	1.15	19.3	7.5			-74.0						
MW03	09/17/12	0.30	19.5	7.2		1460.0	-119.1						
MW05	06/18/08	5.10	21.3	7.2				77.0					
MW05	12/04/08	3.53	6.4	7.0				110.0					
MW05	03/12/09	5.70	15.6	7.9				79.0					
MW05	06/08/09	4.80	15.2	7.8				11.0					
MW05	09/14/09	2.11	20.1	7.2				96.0					
MW05	12/21/09	6.44	11.8	7.0				12.0					
MW05	03/30/10	6.53	14.5	7.6				33.0					
MW06	09/15/08	1.90	20.9	8.3				-31.0					
MW06'	03/12/09	3.37	12.6	8.0				-46.0					
MW06'	06/08/09	4.83	15.4	9.2				-15.0					
MW06'	09/14/09	2.31	18.1	7.4				64.0					
MW06'	12/21/09	1.88	14.8	7.5				1.0					
MW06'	03/30/10	1.98	13.1	7.8				110.0					
MW07	06/18/08	2.61	22.2	7.0				Ur					
MW07	09/15/08	1.56	19.0	7.9				-12.0					
MW07	12/04/08	2.70	5.0	7.0				86.0					
MW07	03/12/09	2.32	13.1	8.3				-52.0					
MW07	06/08/09	4.55	16.1	8.5				19.0					
MW07	09/14/09	1.92	18.4	7.3				82.0					
MW07	12/21/09	1.86	8.4	7.0				29.0					
MW07	03/30/10	1.88	14.3	7.4				141.0					
MW07	06/29/10	1.09	17.7	7.1				-25.0					

Event ID: 6488

Secondary Groundwater Parameters Table Year: 2013

Reporting Period: Qtr 3
 Click on a cell in the section in which you wish
 the additional row. Then click "New Row".

Sample Location	Date	Dissolved Oxygen (mg/L)	Temp (°C)	pH	Specific Conductance (µS/cm)	ORP (mV)	NO3- (mg/L)	Total Fe (mg/L)	Fe+2 (mg/L)	SO4^2- (mg/L)	Alkalinity (mg/L)	Other* (units)	
												COD (mg/L)	Other* (units)
MW07	09/30/10	1.42	16.7	7.3			111.0						
MW07	12/15/10	1.41	13.6	6.9			130.0						
MW07	03/21/11	0.80	12.4	6.9			121.0						
MW07	06/07/11	1.17	15.7	7.2			52.0						
MW07	09/27/11	1.99	17.1	7.1			123.0						
MW07	12/19/11	1.59	12.3	7.5			118.0						
MW07	03/28/12	1.59	15.6	7.0			1495.0						
MW07	06/27/12	1.04	18.3	6.8			121.0						
MW07	09/17/12	0.98	16.1	6.7			1086.0						
MW07	12/13/12	1.76	13.0	7.0			1667.0						
MW07	03/04/13	0.36	12.5	6.1			1641.0						
MW07	06/03/13	1.57	17.7	6.8			93.0						
MW07	09/03/13	1.18	19.4	6.8			1788.0						
MW07	12/02/13	3.45	12.5	5.9			1488	5					
MW08	06/18/08	4.33	23.6	7.0									
MW08	09/15/08	1.43	20.1	7.8									
MW08	12/04/08	2.68	5.3	7.0									
MW08	03/12/09	4.30	13.6	7.0									
MW08	06/08/09	5.26	15.0	7.4									
MW08	12/21/09	1.80	14.0	6.9									
MW08	03/30/10	1.41	14.6	7.5									
MW08	06/29/10	0.78	17.3	7.0									
MW08	09/30/10	1.31	17.5	7.0									
MW08	12/15/10	1.00	13.8	6.7									
MW08	03/21/11	0.80	12.4	6.4									
MW08	06/07/11	1.41	16.1	7.1									
MW08	09/27/11	1.52	18.0	7.1									
MW08	12/19/11	2.04	10.0	7.3									
MW08	03/28/12	1.53	17.5	7.0			1135.0	148.9					

Event ID: 6488

Recording Period: Qtr 3

Secondary Groundwater Parameters Table

Year: 2013

Click on a cell in the section in which you wish
the additional row. Then click "New Row".

Sample Location	Date	Dissolved Oxygen (mg/L)	Temp (°C)	pH	Specific Conductance (µS/cm)	ORP (mV)	NO3- (mg/L)	Total Fe (mg/L)	Fe2+ (mg/L)	SO42- (mg/L)	Alkalinity (mg/L)	COD (mg/L)	Other* (units)
MW08	06/27/12	1.17	17.8	6.8			132.0						
MW08	09/17/12	0.78	16.5	6.6			988.0	137.5					
MW10	06/18/08	2.06	20.6	7.0				-78.0					
MW10	09/15/08	1.12	23.0	8.0				-20.0					
MW10	03/12/09	2.65	12.5	7.7				80.0					
MW10	06/08/09	2.71	17.5	8.2				28.0					
MW10	09/14/09	2.13	19.3	7.5				49.0					
MW10	12/21/09	1.10	15.2	6.9				-99.0					
MW10	03/30/10	1.11	14.0	7.4				Ur					
MW10	06/29/10	0.87	20.2	7.1				-92.0					
MW10	09/30/10	1.45	20.8	7.3				-80.0					
MW10	12/15/10	1.15	15.7	6.7				-3.0					
MW10	03/21/11	0.60	17.0	6.8				-46.0					
MW10	06/07/11	1.36	20.2	7.3				-47.0					
MW10	09/27/11	1.09	23.6	7.1				-78.0					
MW10	12/19/11	1.37	11.5	7.3				-31.0					
MW10	03/28/12	1.28	18.5	7.2			2434.0	-103.3					
MW10	06/27/12	1.70	21.9	7.1				-97.0					
MW10	09/17/12	1.71	18.9	7.0			1717.0	-108.2					
MW10	12/13/12	2.33	12.9	7.2			2573.0	137.6					
MW10	03/04/13	1.28	11.2	6.4			2341.0	-12.4					
MW10	06/03/13	2.13	17.1	7.0				-60.0					
MW10	09/03/13	1.78	25.8	7.3			1532.0	-26.6					
MW10	12/02/13	2.74	13.5	6.1			1765	-31					
MW11	03/12/09	2.53	15.0	8.1				39.0					
MW11	06/08/09	4.26	14.5	8.0				11.0					
MW11	12/21/09	1.91	15.1	7.1				45.0					
MW11	03/30/10	1.25	13.9	7.4				51.0					
MW11	06/29/10	0.93	16.7	7.1				44.0					

Event ID: 6488

Secondary Groundwater Parameters Table

Reporting Period: Qtr 3

Year: 2013

Click on a cell in the section in which you wish
the additional row. Then click "New Row".

Sample Location	Date	Dissolved Oxygen (mg/L)	Temp. (°C)	pH	Specific Conductance (µS/cm)	ORP (mV)	NO3- (mg/L)	Total Fe (mg/L)	Fe2+ (mg/L)	SO4^2- (mg/L)	Alkalinity (mg/L)	COD (mg/L)	Other (units)
MW11	09/30/10	1.69	17.6	7.2			125.0						
MW11	12/15/10	0.95	15.3	6.7			156.0						
MW11	03/21/11	1.40	12.6	6.7			28.0						
MW11	06/07/11	1.52	14.2	7.2			94.0						
MW11	09/27/11	1.35	18.5	6.9			146.0						
MW11	12/19/11	1.85	11.3	7.0			89.0						
MW11	03/28/12	0.93	14.6	7.0			1623.0						
MW11	06/27/12	1.56	16.7	6.8			139.0						
MW11	09/17/12	0.61	17.4	6.6			1231.0						
MW12	03/12/09	1.42	12.6	7.8			82.0						
MW12	06/08/09	2.78	15.2	7.8			6.0						
MW12	09/14/09	2.11	18.9	7.6			46.0						
MW12	12/21/09	1.49	14.7	6.9			47.0						
MW12	03/30/10	1.34	12.4	7.6			-96.0						
MW12	06/29/10	1.12	18.3	7.3			-50.0						
MW12	09/30/10	0.90	20.0	7.6			25.0						
MW12	12/15/10	1.06	15.4	6.9			53.0						
MW12	03/21/11	0.60	12.5	7.1			38.0						
MW12	06/07/11	1.29	15.6	7.5			32.0						
MW12	09/27/11	1.22	22.2	7.0			-39.0						
MW12	12/19/11	1.45	10.7	7.1			4.0						
MW12	03/28/12	1.43	18.0	7.1			2527.0						
MW12	06/27/12	1.26	20.7	7.1			-74.0						
MW12	09/17/12	0.59	19.7	7.0			1508.0						
MW12	12/13/12	1.89	13.4	7.3			2363.0						
MW12	03/04/13	1.10	12.5	6.6			2171.0						
MW12	06/03/13	1.20	15.9	7.2			-109.0						
MW12	09/03/13	0.24	21.6	7.6			2278.0						
MW12	12/02/13	1.31	17.1	6.5			2254.						

Event ID: 6488

Reporting Period: Qtr 3

Click on a cell in the section in which you wish
the additional row. Then click "New Row".

Secondary Groundwater Parameters Table

Year: 2013

Sample Location	Date	Dissolved Oxygen (mg/L)	Temp (°C)	pH	Specific Conductance (µS/cm)	ORP (mV)	NO ₃ ⁻ (mg/L)	Total Fe (mg/L)	Fe ²⁺ (mg/L)	SO ₄ ²⁻ (mg/L)	Alkalinity (mg/L)	COD (mg/L)	Other* (units)
MW13	03/12/09	2.29	11.1	7.6			34.0						
MW13	06/08/09	3.46	15.5	8.1			47.0						
MW13	09/14/09	1.64	19.7	7.9			-23.0						
MW13	12/21/09	1.30	13.8	7.0			40.0						
MW13	03/30/10	1.07	13.4	7.6			Ur						
MW13	06/29/10	0.82	18.3	7.2			-67.0						
MW13	09/30/10	1.48	18.2	7.4			-1.0						
MW13	12/15/10	1.01	14.0	6.8			33.0						
MW13	03/21/11	0.60	14.3	7.0			-49.0						
MW13	06/07/11	1.76	17.5	7.4			-68.0						
MW13	09/27/11	1.69	22.3	7.3			-81.0						
MW13	12/19/11	1.78	10.7	7.4			-62.0						
MW13	03/28/12	0.93	19.0	7.3			2617.0	-117.1					
MW13	06/27/12	1.39	19.4	7.3			-112.0						
MW13	09/17/12	0.45	19.2	6.9			1839.0	-135.5					
MW13	12/13/12	1.20	14.0	7.4			2640.0	94.3					
MW13	03/04/13	0.26	10.8	6.5			2490.0	-276.8	1.390	28.9	0.350	836.000	443
MW13	06/03/13	1.47	14.3	7.1			-99.0						
MW13	12/02/13	1.50	15.7	6.1			1779	-91					
MW14	03/30/10	0.50	15.3	7.7			Ur						
MW14	06/29/10	0.63	16.2	7.4			Ur						
MW14	09/30/10	1.60	18.0	7.5			-66.0						
MW14	12/15/10	0.74	14.8	6.9			-48.0						
MW14	03/21/11	0.50	11.9	7.2			Ur						
MW14	06/07/11	1.30	17.3	7.6			-119.0						
MW14	09/27/11	0.64	19.2	7.3			-119.0						
MW14	12/19/11	2.14	8.1	7.6			-57.0						
MW14	03/28/12	1.21	20.3	7.4			1579.0	-145.1					
MW14	06/27/12	1.23	18.7	7.2			-101.0						

Event ID: 6488

Second Reporting Period: Qtr 3
the section in which you wish
www. Then click "New Row".

Secondary Groundwater Parameters Table

Year: 2013
Qtr 3

Water Quality Data Log												
Sample Location	Date	Physical Properties			Chemical Oxidation-Reduction Potential (ORP)			Inorganic Anions				
		Dissolved Oxygen (mg/L)	Temp. (°C)	pH	Specific Conductance (µS/cm)	ORP (mV)	NO ₃ (mg/L)	Total Fe (mg/L)	Fe ⁺² (mg/L)	SO ₄ ²⁻ (mg/L)	Alkalinity (mg/L)	
MW14	09/17/12	0.22	17.8	7.1	1221.0	-158.0						
MW14	12/13/12	0.78	13.3	7.3	1881.0	132.8						
MW14	03/04/13	0.20	11.3	6.5	1834.0	-147.0	0.030	63.0	0.450	211.000	690	148.0
MW14	06/03/13	0.86	17.4	7.1			-110.0					
MW14	09/03/13	0.00	18.6	7.3	1891.0	-41.9						
MW14	12/02/13	1.21	12.8	6.4	2033	-34	3.9	9.5	0.6	320.0	780	38.0
MW15	03/30/10	3.18	10.6	7.8			-23.0					
MW15	06/29/10	0.75	19.9	7.3			-18.0					
MW15	09/30/10	1.33	20.5	7.5			-2.0					
MW15	12/15/10	0.93	15.4	6.8			40.0					
MW15	03/21/11	1.00	12.2	6.8			5.0					
MW15	06/07/11	0.84	15.5	7.4			5.0					
MW15	09/27/11	0.47	22.5	7.2			-19.0					
MW15	12/19/11	1.42	8.5	7.4			-42.0					
MW15	03/28/12	1.19	14.3	7.3	2015.0	-101.0						
MW15	06/27/12	1.53	20.7	7.1			-115.0					
MW15	09/17/12	0.32	21.3	6.8	1555.0	-134.8						
MW15	12/13/12	1.24	13.7	7.3	2324.0	117.1						
MW15	03/04/13	2.14	9.5	6.7	2291.0	-20.1						
MW15	06/03/13	1.52	15.8	6.9			-96.0					
MW15	09/03/13	0.00	22.0	7.1	2515.0	-63.7						
MW15	12/02/13	1.17	14.7	6.0	1926	-61						
MW16	03/30/10	1.12	10.1	7.4			3.0					
MW16	06/29/10	0.82	20.5	6.9			24.0					
MW16	09/30/10	2.03	20.7	7.2			36.0					
MW16	12/15/10	1.18	12.2	6.7			63.0					
MW16	03/21/11	0.60	10.5	7.1			38.0					
MW16	06/07/11	1.86	18.1	7.2			67.0					
MW16	09/27/11	1.36	22.6	6.9			95.0					

Event ID: 6488

Secondary Groundwater Parameters Table

Year: 2013

Reporting Period: Qtr 3

Click on a cell in the section in which you wish
the additional row. Then click "New Row"

Sample Location	Date	Dissolved Oxygen (mg/L)	Temp (°C)	pH	Specific Conductance (µS/cm)	ORP (mV)	NO3- (mg/L)	Total Fe (mg/L)	Fe2+ (mg/L)	SO4^2- (mg/L)	Alkalinity (mg/L)	COD (mg/L)	Other* (units)	
MW16	12/19/11	2.79	7.9	7.2			65.0							
MW16	03/28/12	2.50	12.8	7.1			1902.0	36.3						
MW16	06/27/12	1.94	20.7	7.0				57.0						
MW16	09/17/12	1.90	20.5	6.8			1422.0	16.1						
MW16	12/13/12	3.63	13.2	7.2			2099.0	208.7						
MW16	03/04/13	1.93	7.8	6.4			2020.0	4.5						
MW16	06/03/13	3.29	14.7	7.0				49.0						
MW16	09/03/13	2.88	24.4	7.2			1974.0	-7.2						
MW17	03/30/10	1.38	12.8	7.6				-29.0						
MW17	06/29/10	0.85	15.5	7.3				-83.0						
MW17	09/30/10	1.26	18.0	7.5				-24.0						
MW17	12/15/10	1.04	15.6	6.9				107.0						
MW17	03/21/11	0.80	12.3	7.0				-75.0						
MW17	06/07/11	1.09	15.0	7.2				-62.0						
MW17	09/27/11	1.23	21.6	6.4				-69.0						
MW17	12/19/11	1.59	12.7	6.6				-29.0						
MW17	03/28/12	1.34	16.8	6.7			1575.0	-73.6						
MW17	06/27/12	1.58	17.4	6.8				-79.0						
MW17	09/17/12	0.26	18.5	6.6			1177.0	-107.1						
MW17	12/13/12	2.97	11.9	7.0			1958.0	151.2						
MW17	06/03/13	1.42	14.4	6.9				-51.0						
MW17	09/03/13	0.88	28.3	7.2			1828.0	-55.8						
MW18	01/31/13							14,000	1.6	0.880	240,000	480	38.0	
MW18	03/04/13	0.00	12.5	6.3			1882.0	-257.2						
MW18	06/03/13	0.20	15.3	6.9				-100.0						
MW18	09/03/13	0.00	18.5	7.0			1905.0	-63.8						
MW18	12/02/13	1.78	13.3	6.0			1682	-14	8.8	2.7	0.1	580.0	390	
MW19	01/31/13								6,600	1.3	0.530	250,000	530	100.0
MW19	03/04/13	0.00	12.7	6.4			1784.0	-214.1						

Event ID: 6438

Reporting Period: Qtr 3

Secondary Groundwater Parameters Table

Year: 2013

Sample Location	Date	Dissolved Oxygen (mg/L)	Temp (°C)	pH	Specific Conductance (µS/cm)	ORP (mV)	NO ₃ (mg/L)	Total Fe (mg/L)	Fe ²⁺ (mg/L)	SO ₄ ²⁻ (mg/L)	Alkalinity (mg/L)	CCD (mg/L)	Other (units)
MW19	06/03/13	0.14	16.4	7.0		-133.0							
MW19	09/03/13	0.00	18.3	7.2		1854.0	-112.0						
MW19	12/02/13	1.24	13.9	6.2		2454	59	3.3	0.8	0.0	1000.0	490	25.0
MW20	01/31/13												
MW20	03/04/13	0.00	12.0	6.1		1855.0	-53.7	9.900	1.3	1.200	350,000	340	6.0
MW20	06/03/13	1.18	16.3	6.7									
MW20	09/03/13	0.00	19.5	7.0		1801.0	-36.0						

Copy Row "Copy Row" in the cell in column A of this row.

*List other analytes in header

Groundwater Contamination Trends

Event ID: 6488

Reporting Period: Qtr 3

Year: 2013

Well Location	Click on a cell in the section in which you wish to add a new row. Then click "New Row"							
	Well ID	Date	Benzene (mg/L)	TOC (ft)	Water Table Elevation, Corrected for Product Thickness (ft)	Depth to Water (ft)	Depth to Product (ft)	Product Thickness (ft)
Source	MW15	03/30/10	0.5500	98.70	90.65	8.05		0
Source	MW15	06/29/10	0.5200	98.70	90.57	8.13		0
Source	MW15	09/30/10	0.4600	98.70	90.55	8.15		0
Source	MW15	12/15/10	1.3000	98.70	90.92	7.78		0
Source	MW15	03/21/11	0.3380	98.70	90.58	8.12		0
Source	MW15	06/07/11	0.1200	98.70	90.48	8.22		0
Source	MW15	09/27/11	0.0940	98.70	91.14	7.56		0
Source	MW15	12/19/11	0.2700	98.70	91.49	7.21		0
Source	MW15	03/28/12	0.3100	98.70	91.36	7.34		0
Source	MW15	06/27/12	0.4800	98.70	91.16	7.54		0
Source	MW15	09/17/12	0.2300	98.70	91.53	7.17		0
Source	MW15	12/13/12	0.3000	98.70	91.49	7.21		0
Source	MW15	03/04/13	0.0020	98.70	91.10	7.60		0
Source	MW15	06/03/13	0.0850	98.70	91.13	7.57		0
Source	MW15	09/03/13	0.0290	98.70	91.21	7.49		0
Source	MW15	12/02/13	0.0031	98.70	92.17	6.53		0
	Total	Total	Total	Total	Total	Total	Total	Total
Mid plume	MW18	01/31/13	0.0390	97.40	86.56	10.84		0
Mid plume	MW18	03/04/13	0.0754	97.40	86.62	10.78		0
Mid plume	MW18	06/03/13	0.0520	97.40	86.23	11.17		0
Mid plume	MW18	09/03/13	0.0540	97.40	86.22	11.18		0
Mid plume	MW18	12/02/13	0.0010	97.40	86.79	10.61		0
End mid plume	Total	Total	Total	Total	Total	Total	Total	Total
Downgradient	MW14	03/30/10	0.0110	96.99	96.99			0
Downgradient	MW14	06/29/10	0.0120	96.99	96.99			0
Downgradient	MW14	09/30/10	0.0130	96.99	96.99			0
Downgradient	MW14	12/15/10	0.0380	96.99	84.45	12.54		0
Downgradient	MW14	03/21/11	0.1230	96.99	84.51	12.48		0
Downgradient	MW14	06/07/11	0.0750	96.99	84.69	12.30		0
Downgradient	MW14	09/27/11	0.0950	96.99	85.30	11.69		0
Downgradient	MW14	12/19/11	0.1700	96.99	84.98	12.01		0
Downgradient	MW14	03/28/12	0.1400	96.99	84.83	12.16		0
Downgradient	MW14	06/27/12	0.1500	96.99	85.21	11.78		0
Downgradient	MW14	09/17/12	0.1900	96.99	85.67	11.32		0
Downgradient	MW14	12/13/12	0.2600	96.99	85.51	11.48		0
Downgradient	MW14	03/04/13	0.2120	96.99	85.18	11.81		0
Downgradient	MW14	06/03/13	0.1100	96.99	85.72	11.27		0
Downgradient	MW14	09/03/13	0.1100	96.99	85.31	11.68		0
Downgradient	MW14	12/02/13	0.0010	96.99	85.83	11.16		0
End Downgradient	Total	Total	Total	Total	Total	Total	Total	Total

TOC = Surveyed elevation top of casing

Corrective Action Summary

Date

Groundwater Contamination Trends

Event ID: 6488

Reporting Period: Qtr 3

Year: 2013

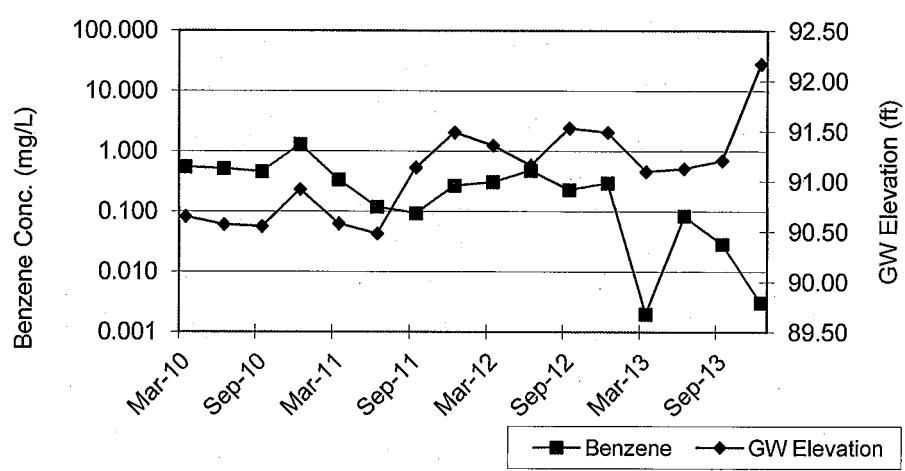
Groundwater Contamination Trend Graphs

Event ID: 6488

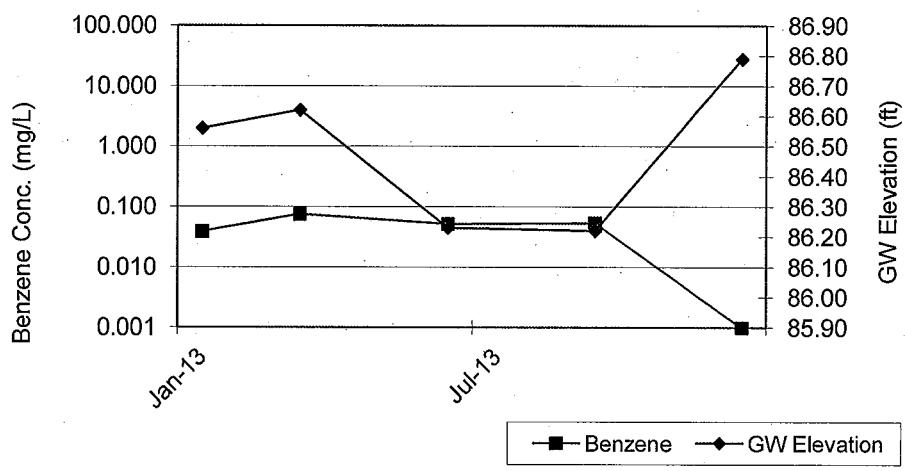
Reporting Period: Qtr 3

Year: 2013

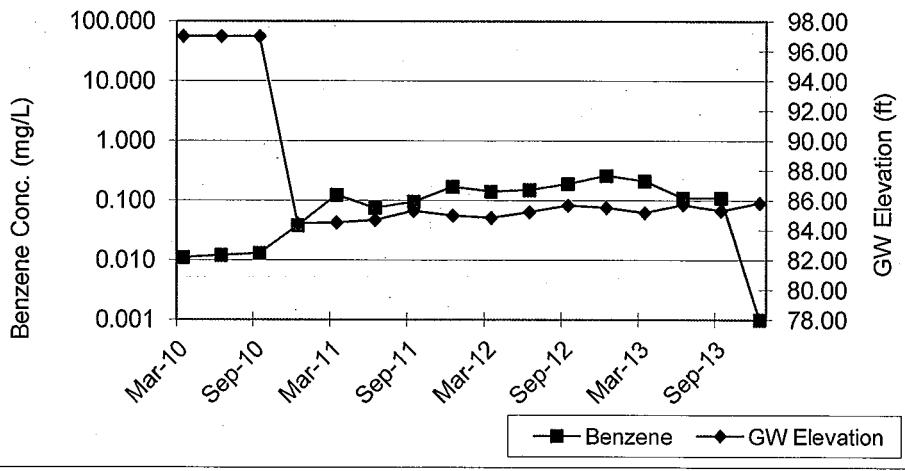
MW15



MW18



MW14



Event ID: 6488

Soil Analytical Results Table
Reporting Period: Qtr 3
Year: 2013

		Click on a cell in the section in which you wish the additional row. Then click "New Row"								
Sample Location	Date	Rationale	Sample Depth (ft)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-Benzene (mg/kg)	Xylenes (mg/kg)	TVPH (mg/kg)	TEPH (mg/kg)	*Confirmation for Sample Locations(s)
890218-01	02/18/98	DE	10.00	2.500	1.300	18.000	45.000	1400.0		LIP
890218-02	02/18/98	DE	10.00	0.013	0.024	0.017	0.005	18.0		
890218-03	02/18/98	DE	10.00	6.500	7.000	1.300	37.000	1800.0		LIP
890218-04	02/18/98	DE	10.00	0.820	0.900	1.500	8.700	190.0		LIP
890218-05	02/18/98	DE	10.00	0.043	0.050	0.063	0.220	8.0		
890313-01	03/13/98	TANK	12.00	0.005	0.470	0.630	26.000	830.0		EDO
890313-02	03/13/98	TANK	12.00	0.005	0.270	0.450	12.000	580.0		EDO
890313-03	03/13/98	TANK	12.00	0.005	0.400	0.110	1.600	470.0		
890313-04	03/13/98	TANK	12.00	0.005	0.270	0.005	25.000	490.0		
890313-05	03/13/98	TANK	12.00	0.005	0.320	0.640	22.000	650.0		EDO
890313-06	03/13/98	TANK	12.00	0.005	0.100	0.270	10.000	420.0		
890320-01	03/20/98	DISP	4.00	0.800	6.100	6.900	13.000	820.0		EDO
890320-02	03/20/98	DISP	4.00	0.650	5.500	5.100	36.000	650.0		EDO
890323-01	03/23/98	EXC	8.00	2.300	15.000	12.000	67.000	920.0		EDO
890323-02	03/23/98	EXC	8.00	0.230	5.000	7.800	57.000	700.0		EDO
890326-01	03/26/98	EXC	12.00	2.600	15.000	7.800	50.000	680.0		EDO
890326-02	03/26/98	EXC	12.00	0.072	0.250	0.099	1.400	140.0		
890326-03	03/26/98	EXC	12.00	0.011	0.028	0.016	0.050	7.1		
890326-04	03/26/98	EXC	12.00	0.022	0.024	0.011	0.009	1.4		
890403-01	04/03/98	EXC	260.000	42.000	46.000	140.000	2700.0			EDO
890403-02	04/03/98	EXC	145.000	24.000	22.000	76.000	1400.0			EDO
890403-03	04/03/98	EXC	210.000	56.000	37.000	110.000	2000.0			EDO
891120-01	11/20/98	DE	10.00	0.005	0.005	0.005	0.005	1.0		
891120-02	11/20/98	DE	10.00	0.020	0.005	0.005	0.005	2.4		
891120-03	11/20/98	DE	10.00	0.005	0.005	5.000	0.005	1.8		
ASI	03/25/10	DE	10.00	0.180	0.120	1.900	4.600	220.0		
MW06'	02/04/09	DE	10.00	0.020	0.020	0.020	0.040	1.0		
MW11	02/04/09	DE	10.00	0.020	0.020	26.000	8.9			
MW12	02/05/09	DE	10.00	0.420	0.580	0.860	3.300	69.0		LIP

Event ID: 6488
Soil Analytical Results Table
Reporting Period: Qtr 3
Year: 2013

		Click on a cell in the section in which you wish the additional row. Then click "New Row".										
Sample Location	Date	Rationale	Sample Depth (ft)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-Benzene (mg/kg)	Xylenes (mg/kg)	TVPH (mg/kg)	TPPH (mg/kg)	Oil & Grease (mg/kg)	Disposition of Contaminated Soil	Confirmation for Sample Locations
MW13	02/04/09	DE	10.00	0.055	0.080	0.800	2.400	87.0				
MW14	03/18/10	DE	15.00	0.020	0.020	0.020	0.040	1.0				
MW15	03/25/10	DE	5.00	0.020	0.020	0.190	1.300	22.0				
MW16	03/18/10	DE	5.00	0.020	0.020	0.020	0.040	1.0				
MW17	03/25/10	DE	10.00	0.020	0.020	0.020	0.040	1.0				
MW18	01/30/13	DE	10.00	0.002	0.003	0.003	0.019	6.4				
MW19	01/30/13	DE	10.00	0.089	0.730	67.000	240.000	9200.0	LIP			
MW20	01/30/13	DE	10.00	0.002	0.003	0.003	0.009	1.1				
VW02	02/05/09	DE	5.00	0.020	0.020	0.020	0.040	1.0				

End text "Copy Row" in the cell in column A of this row.

If concentration is less than the stated laboratory detection limit, list the detection limit (not ND); e.g. 0.0005

* List sample locations that exceeded RBSLs that the confirmation sample represents

Rationale:

- RC =Release confirmation
 TANK =Below USTS/ASTs
 DISP =Below dispensers
 EXC =Excavation UST/AST
 CS =Confirmation sample
 WC =Waste characterization
 SP =Spoils pile or load sample
 DE =Define extent
 PIPE =Below piping

Disposition of Contaminated Soil :

- | | |
|------|--|
| LIP | = Left in place |
| SPO | = Stock piled onsite |
| EDO | = Excavated and disposed of onsite |
| RUE | = Replaced untreated to excavation |
| TRE | = Treated and returned to excavation |
| WIRS | = Within the influence of active remedial system |

Soil PAH Analytical Table

Event ID: 6488 Reporting Period: Qtr 3

					Year: 2013
Sample Location	MW19				Surficial RBSL
Date	1/30/2013				Subsurface RBSL
Sample Depth (ft)	10				(<3 ft) (>3 ft)
TVPH (mg/kg)	9200.00				NA
TEPH (mg/kg)					NA
TRPH (mg/kg)					NA
Acenaphthene (mg/kg)	0.10				NA
Acenaphthylene (mg/kg)	0.04				NA
Anthracene (mg/kg)	0.03				NA
Benzo(a)anthracene (mg/kg)	0.03				NA
Benzo(a)-pyrene (mg/kg)	0.03				NTD
Benzo(b)-fluoranthene (mg/kg)	0.03				>SAT
Benzo(g,h,i)-perylene (mg/kg)	0.03				18,000
Benzo(k)-fluoranthene (mg/kg)	0.03				NTD
Chrysene (mg/kg)	0.03				NTD
Dibenz(a,h)-anthracene (mg/kg)	0.03				0.62
Fluoranthene (mg/kg)	0.03				1.6
Fluorene (mg/kg)	0.10				0.62
Indeno(1,2,3-CD)-pyrene (mg/kg)	0.03				0.62
Naphthalene (mg/kg)	14.50				6.2
Phenanthrene (mg/kg)	0.14				62
Pyrene (mg/kg)	0.05				1.5

NTD = No toxicological data
 >SAT = Greater than saturation

Soil Vapor Table

Event ID: 6488 Reporting Period: Qtr 3

Year: 2013

Sample Point ID	Date	Construction of Associated Structure	Sample Type	Top of Sample Screen Below Ground or Slab (ft)	Bottom of Sample Screen Below Ground or Slab (ft)	Benzene (ug/m3)	Other Analytes (ug/m3)	CO2 (%)	O2 (%)	OVM reading (ppm)	Methane (%)	Sample Collection Method	Sample Container Type	Analytical Method	Well Status if Not Sampled	
															T	I
VW01	06/18/08	source area	soil vapor	7.0	8.0	700000.0									PP	8260
VW01	09/15/08	source area	soil vapor	7.0	8.0	680000.0									PP	8260
VW01	12/04/08	source area	soil vapor	7.0	8.0	890000.0									PP	8260
VW01	03/12/09	source area	soil vapor	7.0	8.0	2600000.0									PP	8260
VW01	04/13/09	source area	soil vapor	7.0	8.0	340000.0									PP	8260
VW01	06/08/09	source area	soil vapor	7.0	8.0	620000.0									PP	8260
VW01	09/14/09	source area	soil vapor	7.0	8.0	510000.0									PP	8260
VW02	02/05/09	slab on grade	soil vapor	5.5	6.0	240000.0									PP	8260
VW02	03/12/09	slab on grade	soil vapor	5.5	6.0	17000.0									PP	8260
VW02	04/13/09	slab on grade	soil vapor	5.5	6.0	110000.0									PP	8260
VW02	06/08/09	slab on grade	soil vapor	5.5	6.0	110000.0									PP	8260
VW02	09/14/09	slab on grade	soil vapor	5.5	6.0	990000.0									PP	8260
VW02	12/21/09	slab on grade	soil vapor	5.5	6.0	170000.0									PP	8260
VW02	03/30/10	slab on grade	soil vapor	5.5	6.0	660000.0									PP	8260
VW02	06/29/10	slab on grade	soil vapor	5.5	6.0	1000000.0									PP	8260
VW02	09/30/10	slab on grade	soil vapor	5.5	6.0	810000.0									PP	8260

end text... Copy Row 1 in column A of this row.

If concentration is less than the stated laboratory detection limit (not ND); e.g. 0.0005

*List other analytes in header

Sample containers:

S1 =Summa canister 1 liter
 S3 =Summa canister 3 liter=
 S6 =Summa canister 6 liter
 T =Tedlar bag (no shipping)
 G =Glass canister
 SYR =Syringe (onsite analysis only)

Sample collection method:

S =Summa cannister
 PP =Peristaltic pump
 AP =Powered air pump
 VC =Vacuum chamber
 HP =Hand pump
 FC =Flux chamber

Analytical Method:
 TO1 =EPA TO1
 TO3 =EPA TO3
 TO14A =EPA TO14A
 TO15 =EPA TO15
 8021B =EPA 8021B
 8260 =EPA 8260

Well Status if Not Sampled:

SUB =Submerged
 DES =Destroyed
 INA =Inaccessible
 NOP =Not on Monitoring Plan

Indoor Air Table

Event ID: 6488

Reporting Period: Qtr 3

Year: 2013

Click on a cell in the section in which you wish
the additional row. Then click "New Row".

Sample Location	Date	Location Type	Benzene ($\mu\text{g}/\text{m}^3$)	PID Reading (ppm)	*Other Analytes ($\mu\text{g}/\text{m}^3$)	Sample Container Type	Sample Collection Method	Analytical Method
Hotel- Indoor	06/29/10	A	0.5			S6	S 24HR	TO15
Hotel-Indoor	03/31/10	A	0.8			S6	S 24HR	TO15
Hotel-Outdoor	03/31/10	O	0.8			S6	S 24HR	TO15

*List other analytes in header

Location Type:

- A =Abovegrade
- B =Basement
- C =Crawlspace
- O =Outside/Ambient

*"Copy Row" in the cell in column A of this row

Sample Collection Method:

- S =Summa canister
- PP =Peristaltic pump
- AP =Powered air pump
- VC =Vacuum chamber
- HP =Hand pump
- FC =Flux chamber

Sample Containers:

- S1 =Summa cannister 1 liter
- S3 =Summa cannister 3 liter
- S6 =Summa cannister 6 liter
- T =Tedral bag (no shipping)
- G =Glass cannister
- SYR =Syringe (onsite analysis only)

Sample Collection Period:

- INST =Instantaneous
- 1HR =1 hour
- 4HR =4 hour
- 8HR =8 hour
- 24HR =24 hour

Analytical Method:

- TO1 =EPA TO1
- TO3 =EPA TO3
- TO14A =EPA TO14A
- TO15 =EPA TO15
- 8021 =EPA 8021B
- 8260 =EPA 8260

Event ID: 6488
 Click on a cell in the section in which you wish
 the additional row. Then click "New Row".

Remediation Targets

Reporting Period: Qtr 3

Year: 2013

Attach SSTL calculations in the Model Input & Results worksheet

Groundwater Site Specific Target Levels						Date OPS Concurred	
Sample Location	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (mg/L)	MTBE (mg/L)	Concentration	SSTL
MW15	0.029	0.012					
Vadose Zone Soil Site Specific Target Levels							
Saturated Soil Site Specific Target Levels							
Closure Goals							
Date monitoring activities are approved through in the CAP						6/30/15	
Date remediation system operation is approved through in the CAP							
Projected closure date						6/30/15	
Does monitoring data indicate that remediation goals will be met by the projected closure date?							
Did the remedial system operate as designed during the reporting period? If no, describe in narrative					No		
Is a CAP Modification needed for this event?					No		

Excavation Detail Table

Event ID: 6488

Reporting Period: Qtr 3

Year: 2013

Disposition of Contaminated Soil :

SPO = Stock piled onsite

EDO = Excavated and disposed offsite

RUE = Replaced untreated to excavation

TRE = Treated and returned to excavation

SPREAD = Spread onsite

-READ = Spread until
-LAND = Landfarmed

Event ID: 6488
Free Product Abatement and Total Fluid Recovery Table
Reporting Period: Qtr 3
Year: 2013

Well ID	Date	Operational Time During Period (hrs)	Removal Method	Pre-Abatement Free Product Thickness (ft)	Post-Abatement Free Product Thickness (ft)	Initial Abatement OVM Reading (ppm)	Final Abatement OVM Reading (ppm)	Groundwater Extracted (gals)	Liquid Phase Product Extracted (gals)	Vapor Phase Product Extracted (lbs)	Total Free-Phase Product Extracted (gals)
MW03	11/17/08	EFR	EFR	0.00	0.00			150.00			0.00
MW03	12/04/08	EFR	EFR	0.00	0.00			100.00			0.00
MW03	01/12/09	EFR	EFR	0.00	0.00			100.00			0.00
MW03	02/17/09	EFR	EFR	0.00	0.00			75.00			0.00
MW03	03/12/09	EFR	EFR	0.00	0.00			50.00			0.00
MW03	04/09/09	EFR	EFR	0.00	0.00	1186	1138	25.00			0.00
MW10	02/17/09	EFR	EFR	0.00	0.00			25.00			0.00
MW10	03/12/09	EFR	EFR	0.00	0.00			0.00			0.00
MW10	04/09/09	EFR	EFR	0.00	0.00	72	108	25.00			0.00
MW12	04/09/09	EFR	EFR	0.00	0.00	652	714	10.00			0.00
MW13	03/12/09	EFR	EFR	0.00	0.00			0.00			0.00
MW13	04/09/09	EFR	EFR	0.00	0.00	392	291	50.00			0.00
Total								Totals	0.00	0.00	0.00

Removal methods:

HB =Hand-Bail

TFR =Total Fluid Recovery

PS =Passive Skimmer

PNS =Pneumatic Skimmer

AS =Absorbent Sock

OTH =Other

*Provide and label TFR field sheets in 'Other Documents' tab

Event ID: 6488 Reporting Period: Qtr 3 Year: 2013 AS and SVE Remediation System Performance

	AS Unit Performance					SVE Unit Performance					Lab analyses					Mass Removal			
	Operation Time During Period (hours)	Positive Pressure at Unit (psig)	Total Discharge Flow Rate (scfm)	Induced Vacuum at Unit (in H ₂ O)	Operation Time During Period (hours)	System Air Flow Rate (scfm)	VOCs (PID) Pre-treatment (ppmv)	VOCs (PID) Post-treatment (ppmv)	Benzene (mg/L)	VOC Emissions for Period TVPH (mg/L)	VOC Emissions for Period PID (lbs)	Benzene Emissions for Period (lbs)	Total VOC Emissions PID (lbs)	Total VOC Emissions TVPH (lbs)	Total Benzene Emissions (lbs)				
10/25/10	0	0.0	0	2	46.0	156	460	630		213.71	0.00	0.000	2.00	0.00	0.00				
11/04/10	240	2.6	34	240	55.0	150	425									215.71	0.00	0.00	
11/24/10	480	2.4	35	480	50.0	152	0									594.84	0.00	0.00	
12/20/10	624	2.6	34	624	50.0	152	449									284.63	0.00	0.00	
01/27/11	912	2.6	34	912	50.0	152	147									94.57	0.00	0.00	
02/28/11	768	2.6	34	768	50.0	152	58									1189.75	0.00	0.00	
03/31/11	744	2.6	34	744	55.0	150	12									1208.45	0.00	0.00	
04/18/11	0	0.0	0	456	48.0	154	74									72.58	0.00	0.00	
05/06/11	432	2.6	34	432	50.0	152	280									256.81	0.00	0.00	
06/07/11	768	2.6	34	768	36.0	169	144									261.06	0.00	0.00	
07/23/11	1176	2.5	35	1176	43.0	160	61									160.32	0.00	0.00	
08/22/11	672	2.5	35	672	42.0	161	28									42.31	0.00	0.00	
09/30/11	864	2.5	35	864	46.0	156	101									190.14	0.00	0.00	
10/14/11	0		0														2191.68	0.00	0.00
11/08/11	2	2.5	35	2	40.0	163	67									0.31	0.00	0.00	
12/30/11	1248	2.5	35	1248	50.0	152	36									95.39	0.00	0.00	
01/31/12	768	2.4	35	768	48.0	154	2									3.30	0.00	0.00	
02/27/12	648	2.4	35	648	48.0	154	20									27.88	0.00	0.00	
03/28/12	720	2.6	34	720	44.0	160	14									22.53	0.00	0.00	
09/04/12	0	2.8	40	0	28.0	172	30									0.00	0.00	0.00	
10/23/12	1176	2.9	40	1176	40.0	163	13									34.81	0.00	0.00	
11/19/12	645	2.8	40	645	42.0	161	2									2.90	0.00	0.00	
12/13/12	574	2.7	37	574	42.0	161	5	1								6.45	0.00	0.00	
02/07/13	984	4.1	65	984	38.0	165	0	9								2341.08	0.00	0.00	
03/04/13	600	3.7	68	600	46.0	156	0	0								2341.08	0.00	0.00	
04/18/13	1080	4.5	60	1080	50.0	152	0	0								2375.88	0.00	0.00	
05/06/13	432	3.6	62	432	40.0	163	0	0								2287.37	0.00	0.00	
06/04/13	696	4.0	65	696	46.0	156	0	0								0.00	0.00	0.00	
06/12/13	192	3.8	68	192	45.0	156	0	0								2385.24	0.00	0.00	
07/10/13	648	3.8	68	648	42.0	161	0	0								2385.24	0.00	0.00	
08/26/13	1128	2.8	40	0												2385.24	0.00	0.00	
09/03/13	216	3.7	65	0												2385.24	0.00	0.00	
10/09/13	888	4.8	60	0												2385.24	0.00	0.00	
10/17/13	192	4.3	63	0												2385.24	0.00	0.00	
10/25/13	192	4.5	60	0												2385.24	0.00	0.00	
11/12/13	432	3.8	68	0												2385.24	0.00	0.00	
12/02/13	480	3.7	68	0												2385.24	0.00	0.00	
Total:	21621				18551										2385	0	0		

Calculation for Total VOC (laboratory analyses):

SVE Operational Time in hours x (60 min/1 hour) x Process Air Flow Rate (ft³/min) x (1 liter/0.03531 ft³) x concentration in mg/L x (2.205 lbs/1E6 mg) = Total Emissions in lbs.

Calculation for Total VOC (PID):

SVE Operational Time (hrs) x [(P x V x C)/(R x T)] (lb/day) x day/24 hrs = Total Emissions in lbs.

Where: P = 1742.28 lbs/ft² = Discharge pressure, based on atmospheric pressure of 12.12 lbs/ft² at 5,300 feet above mean sea level
V = System air flow rate in ft³/min x 1440 min/day

Event ID: 6488 **Reporting Period: Qtr 3** **Year: 2013**

AS and SVE Remediation System Performance

AS Unit Performance		SVE Unit Performance				Lab analyses				Mass Removal			
Operation Time During Period (hours)	Total Discharge Flow Rate at Positive Pressure at Unit (psig)	Induced Vacuum at Unit (in H ₂ O)	Effluent Period (hours)	System Air Flow Rate (scfm)	VOCs (PID) Pre treatment (ppmv)	VOCs (PID) Post treatment (ppmv)	VOC Emissions for Period PID (lbs)	VOC Emissions for Period PID (lbs)	Benzene Emissions for Period PID (lbs)	Total VOC Emissions PID (lbs)	Total VOC Emissions PID (lbs)	Total Benzene Emissions (lbs)	Total VOC Emissions (lbs)
Date	(scfm)			(scfm)									

C = Fractional quantity of gas = VOC by PID / 1E6
 R = 16.27 lbf-ft/lb-mole °R = Specific gas constant of gasoline = Universal gas constant (1545.33 lbf-ft/lb-mole °R) / molecular weight of gasoline (95 lb/lb-mole)

Note: Either PID or laboratory analyses can be used to calculate vapor mass removal.
 T = Discharge temperature °F + 450 = °R

Conversion of vapor units:

1 mg/L = 1E6 µg/m³

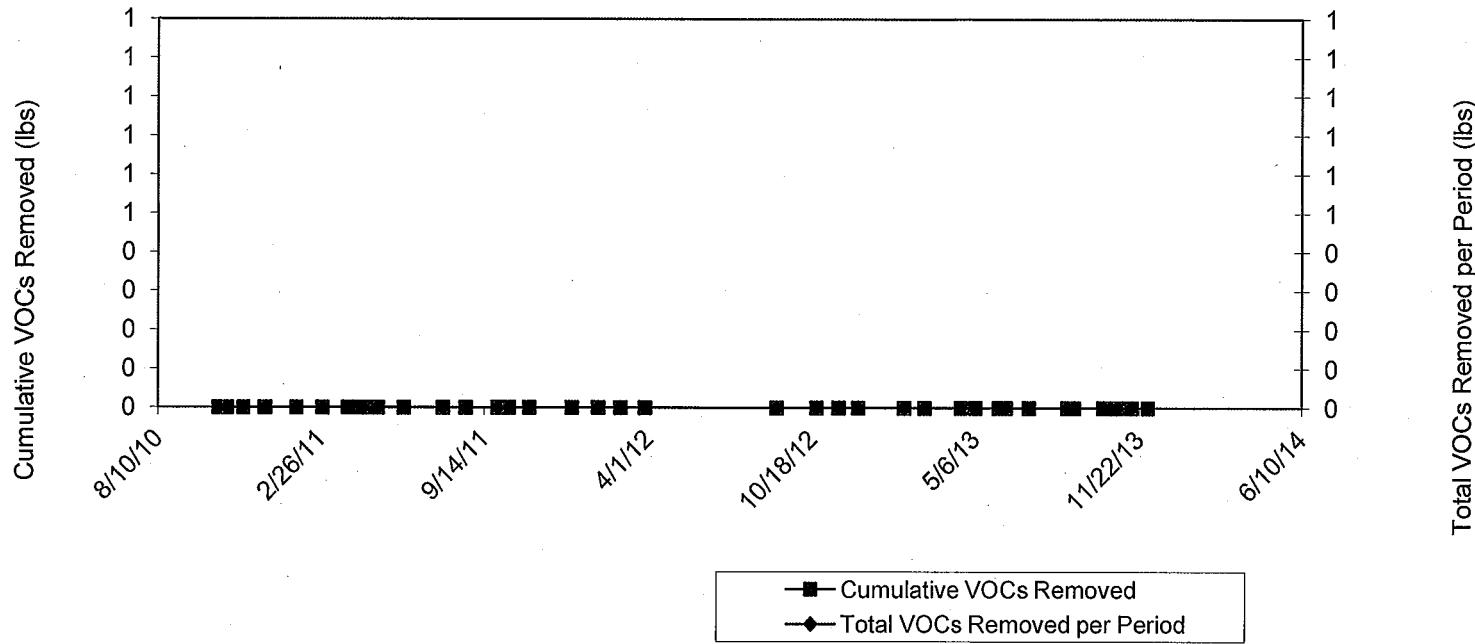
AS/SVE Remediation System Performance and Mass Removal Graphs

Event ID: 6488

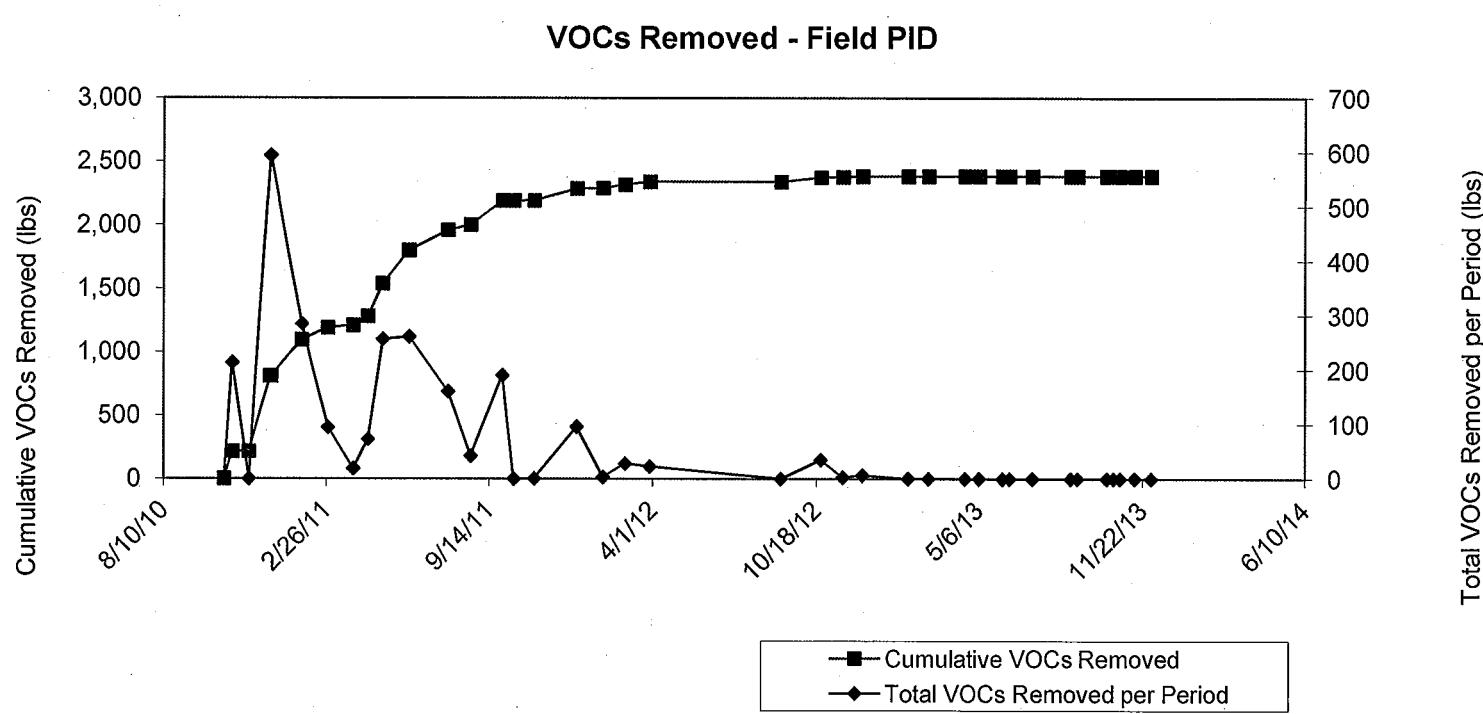
Reporting Period: Qtr 3

Year: 2013

VOCs Removed - Lab Analysis



VOCs Removed - Field PID



Summary of Chemical Oxidation and Bio-Enhancement

Year: 2013

Reporting Period: Qtr 3

Liquid or Slurry Based Addition

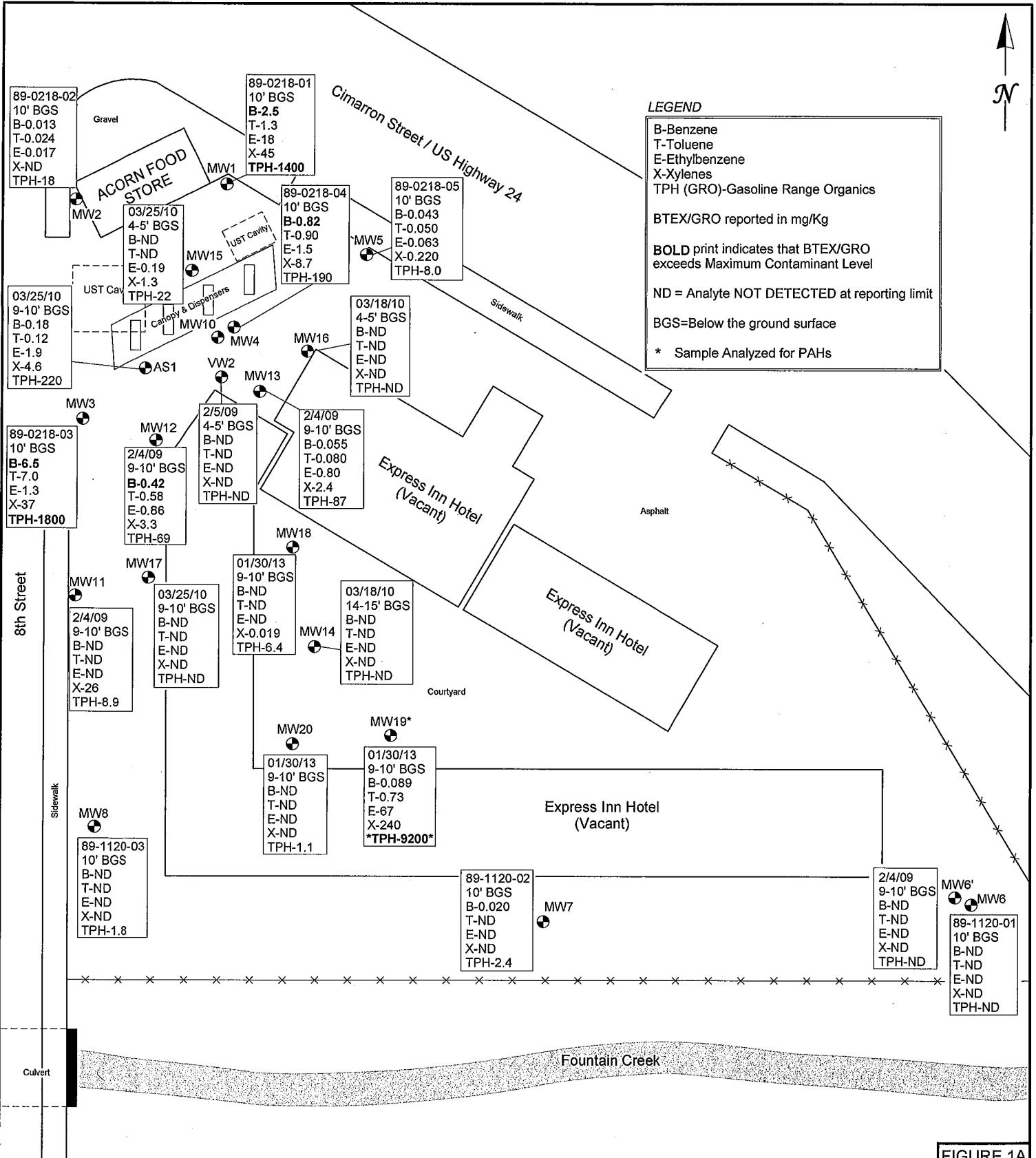


FIGURE 1A

JOB NUMBER: ACN1607B

SOIL SAMPLE LOCATION MAP

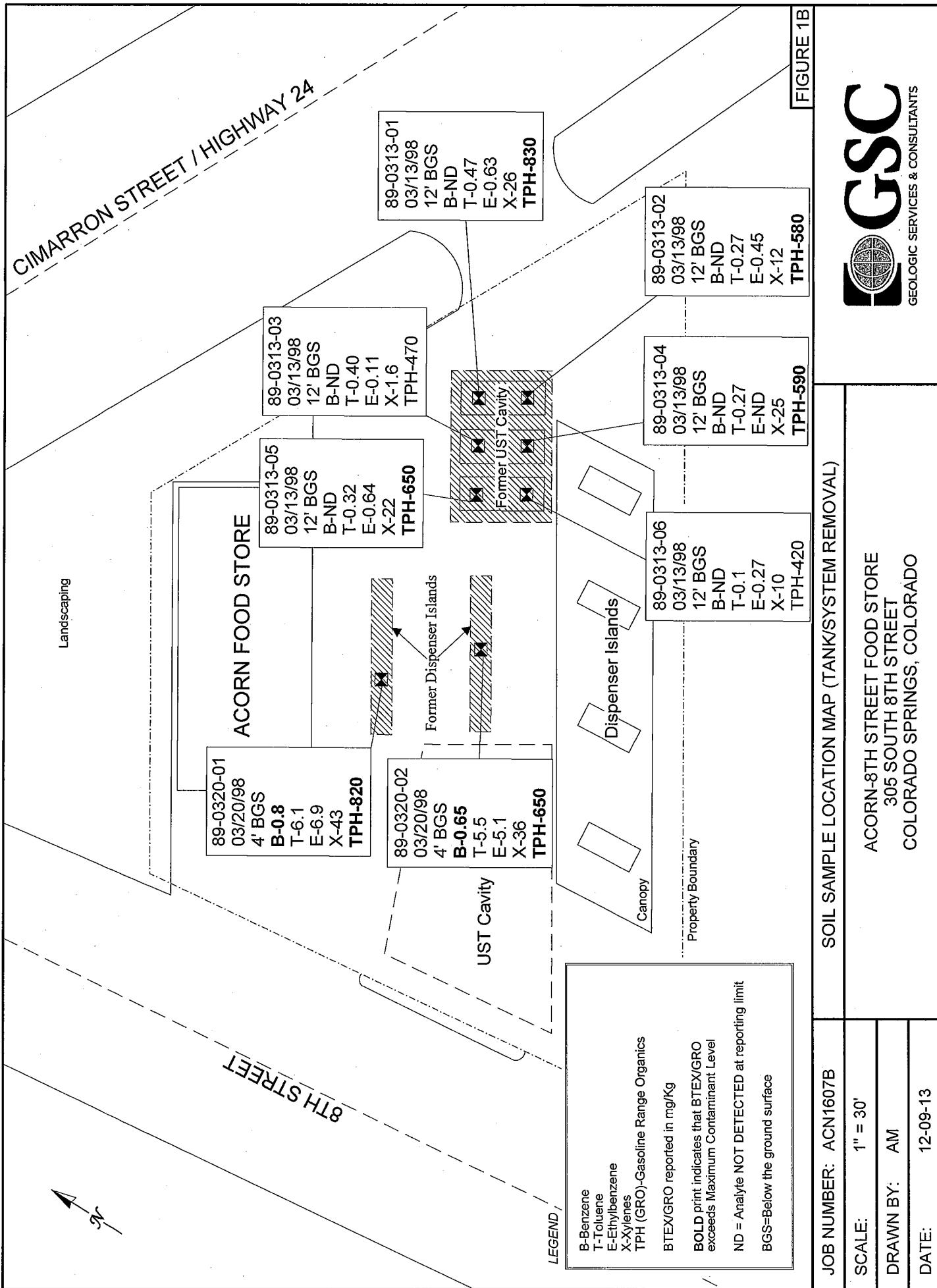
SCALE: 1" = 80'

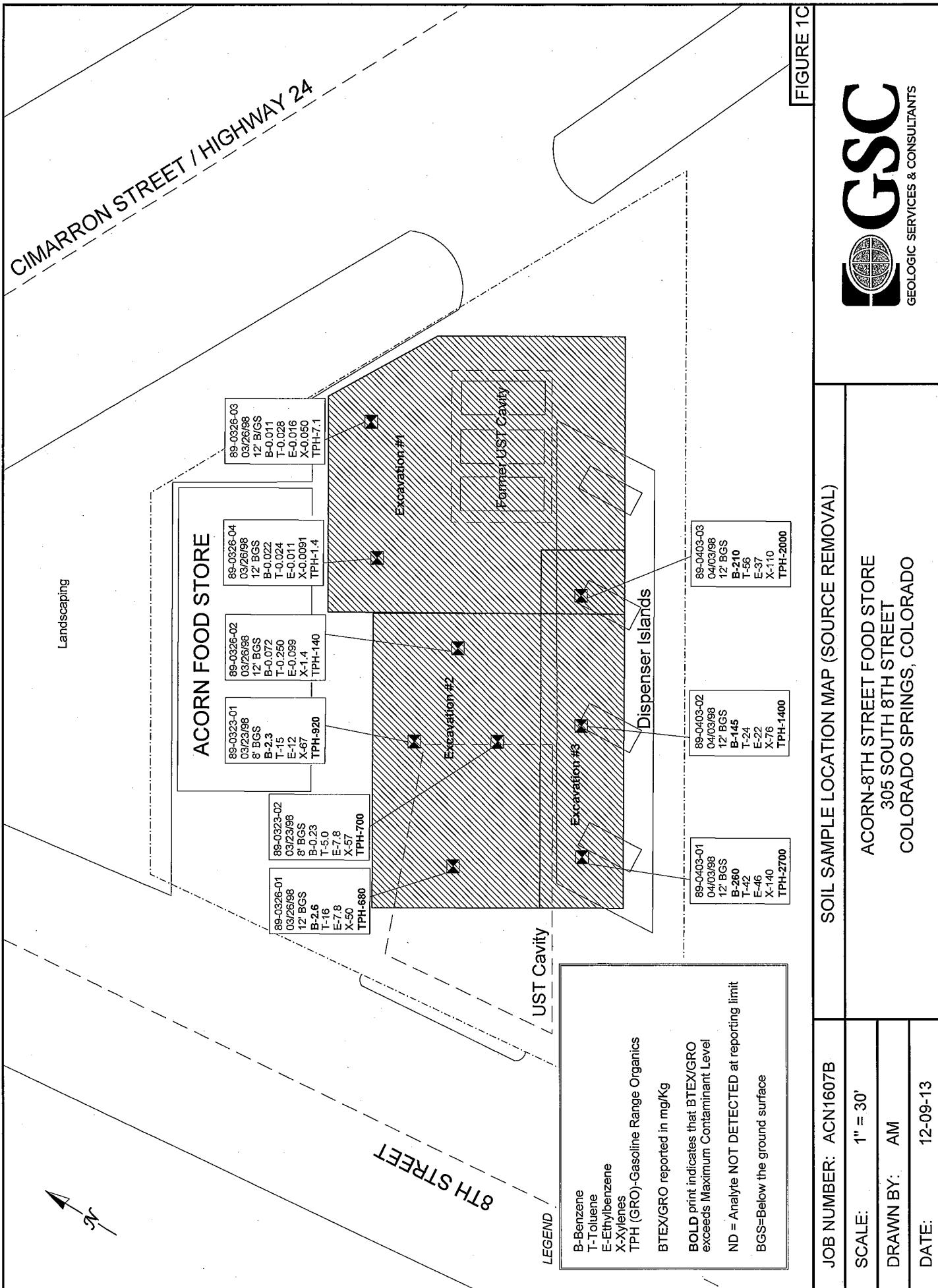
DRAWN BY: AM

DATE: 12-30-13

ACORN-8TH STREET FOOD STORE
305 SOUTH 8TH STREET
COLORADO SPRINGS, COLORADO







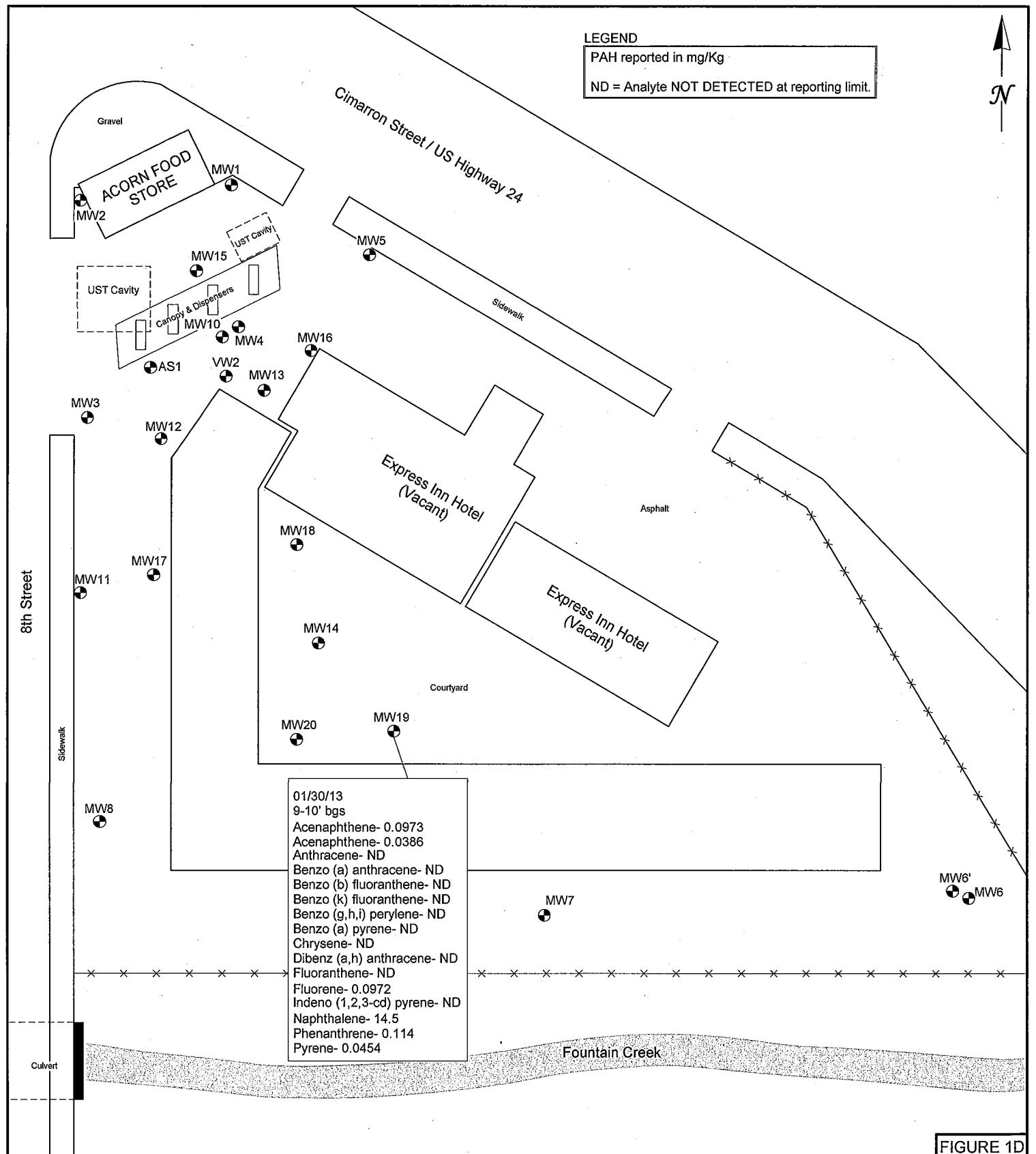


FIGURE 1D

JOB NUMBER: ACN1607B	SOIL SAMPLE LOCATION MAP (PAH)	 GSC <small>GEOLOGIC SERVICES & CONSULTANTS</small>
SCALE: 1" = 80'		
DRAWN BY: AM		
DATE: 12-09-13		

ACORN-8TH STREET FOOD STORE
305 SOUTH 8TH STREET
COLORADO SPRINGS, COLORADO

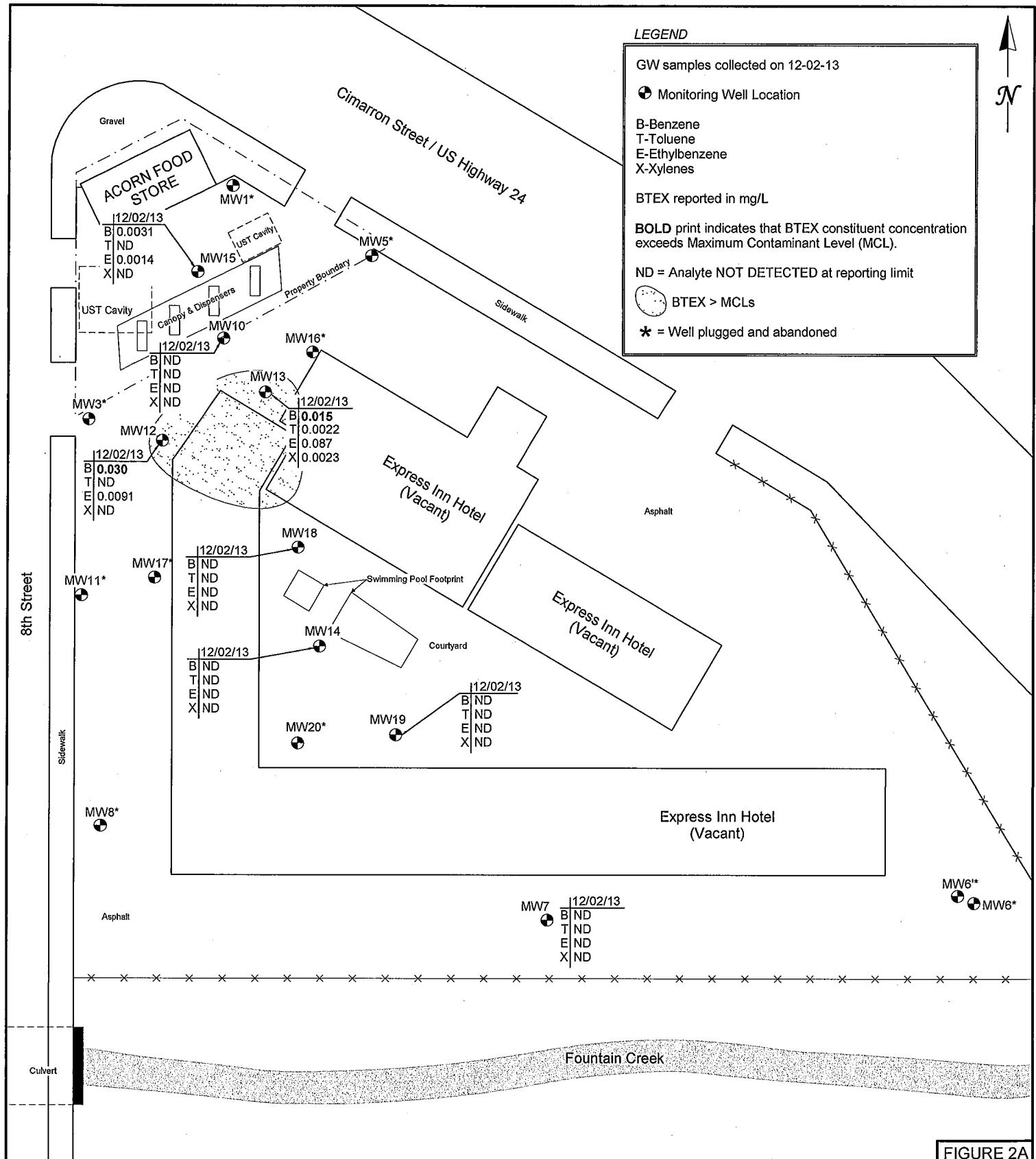
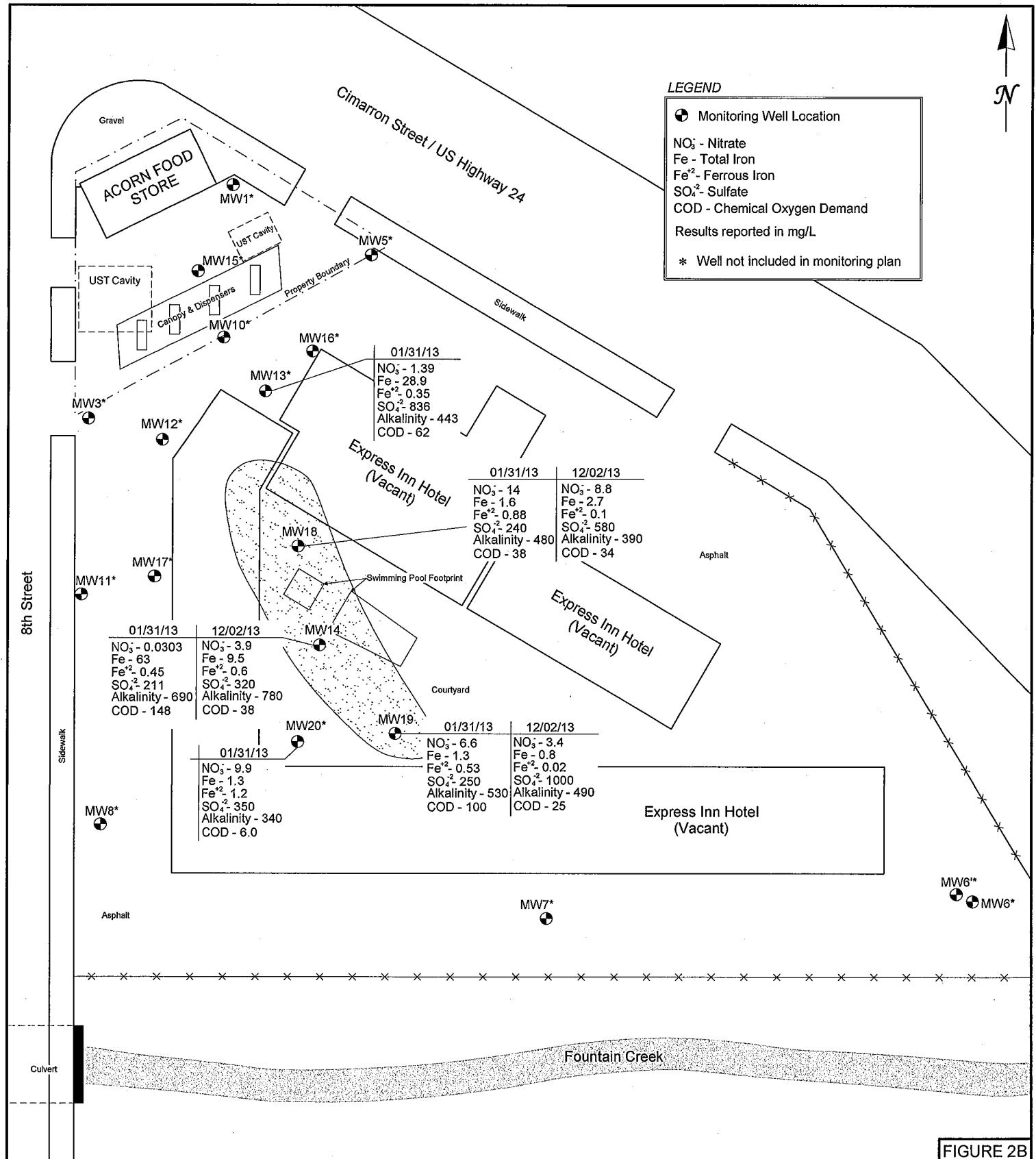


FIGURE 2A

JOB NUMBER: ACN1607B	DISTRIBUTION OF BTEX IN GROUNDWATER	GSC <small>GEOLOGIC SERVICES & CONSULTANTS</small>
SCALE: 1" = 80'		
DRAWN BY: AM		
DATE: 12-30-13		

ACORN-8TH STREET FOOD STORE
305 SOUTH 8TH STREET
COLORADO SPRINGS, COLORADO



JOB NUMBER: ACN1607B	GROUNDWATER PARAMETERS	
SCALE: 1" = 80'	ACORN-8TH STREET FOOD STORE 305 SOUTH 8TH STREET COLORADO SPRINGS, COLORADO	 GSC <small>GELOGIC SERVICES & CONSULTANTS</small>
DRAWN BY: AM		
DATE: 12-30-13		

Groundwater elevation data collected on 12-02-13

* Well plugged and abandoned

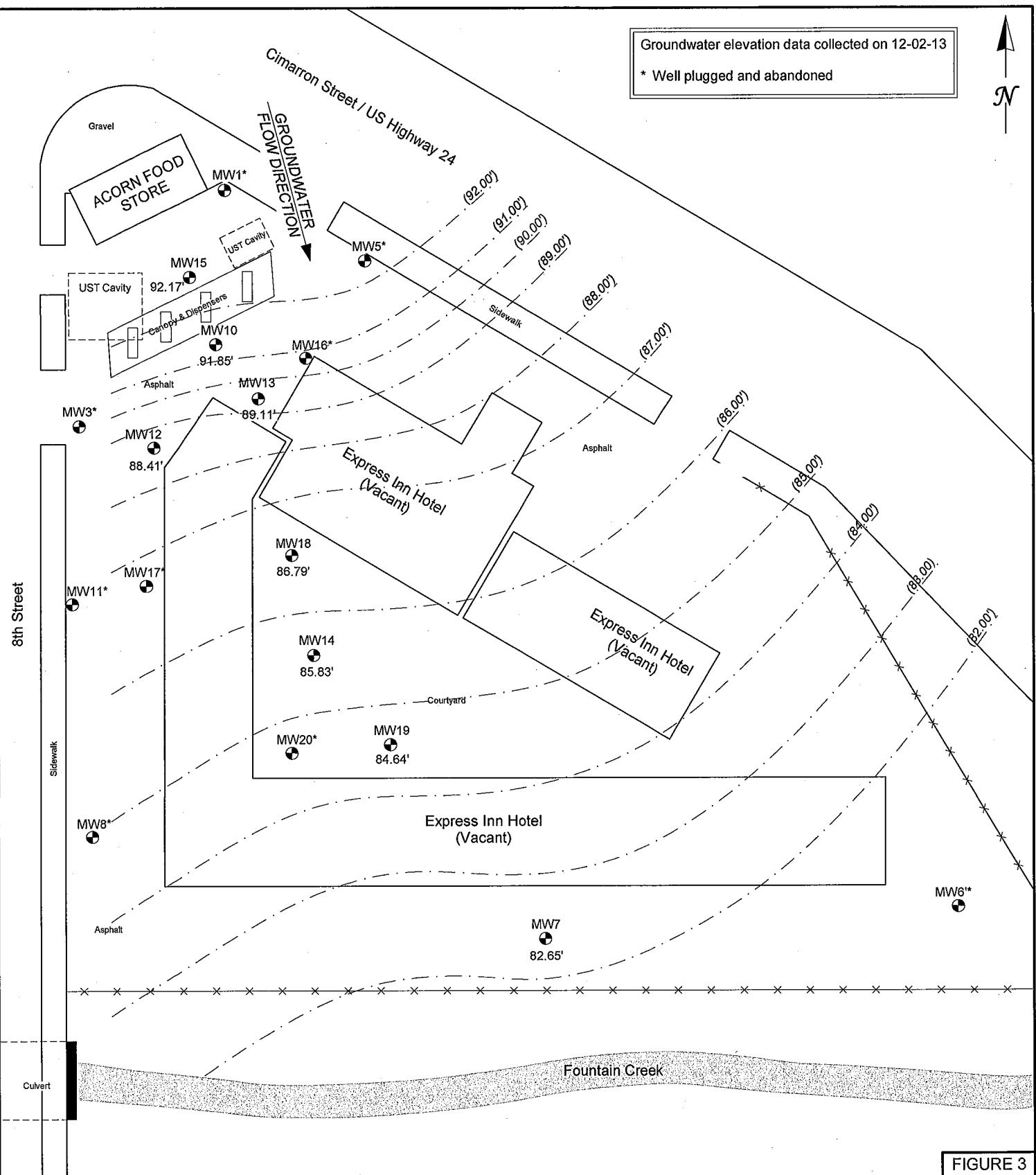


FIGURE 3

JOB NUMBER: ACN1607B	GROUNDWATER ELEVATION MAP	
SCALE: 1" = 80'	ACORN-8TH STREET FOOD STORE 305 SOUTH 8TH STREET COLORADO SPRINGS, COLORADO	
DRAWN BY: AM		
DATE: 12-30-13		

GSC
GEOLOGIC SERVICES & CONSULTANTS

N

LEGEND

- 2" Vertical SVE Well
- 2" Vertical Sparge Well
- Sparge well out of use
- SVE well out of use
- 1" Horizontal Sparge Conduit
- 2" Horizontal Sparge Conduit

Manifold Configuration

Air Sparge

- Line #1 - AS4, AS10, AS12 - OFF
Line #2 - AS7, AS8, AS9
Line #3 - AS1, AS2, AS3, AS5
Line #4 - AS6, AS11

Soil Vapor Extraction - OFF

- Line #1 - SVE3, SVE5
Line #2 - SVE1, SVE2, SVE4

8TH STREET

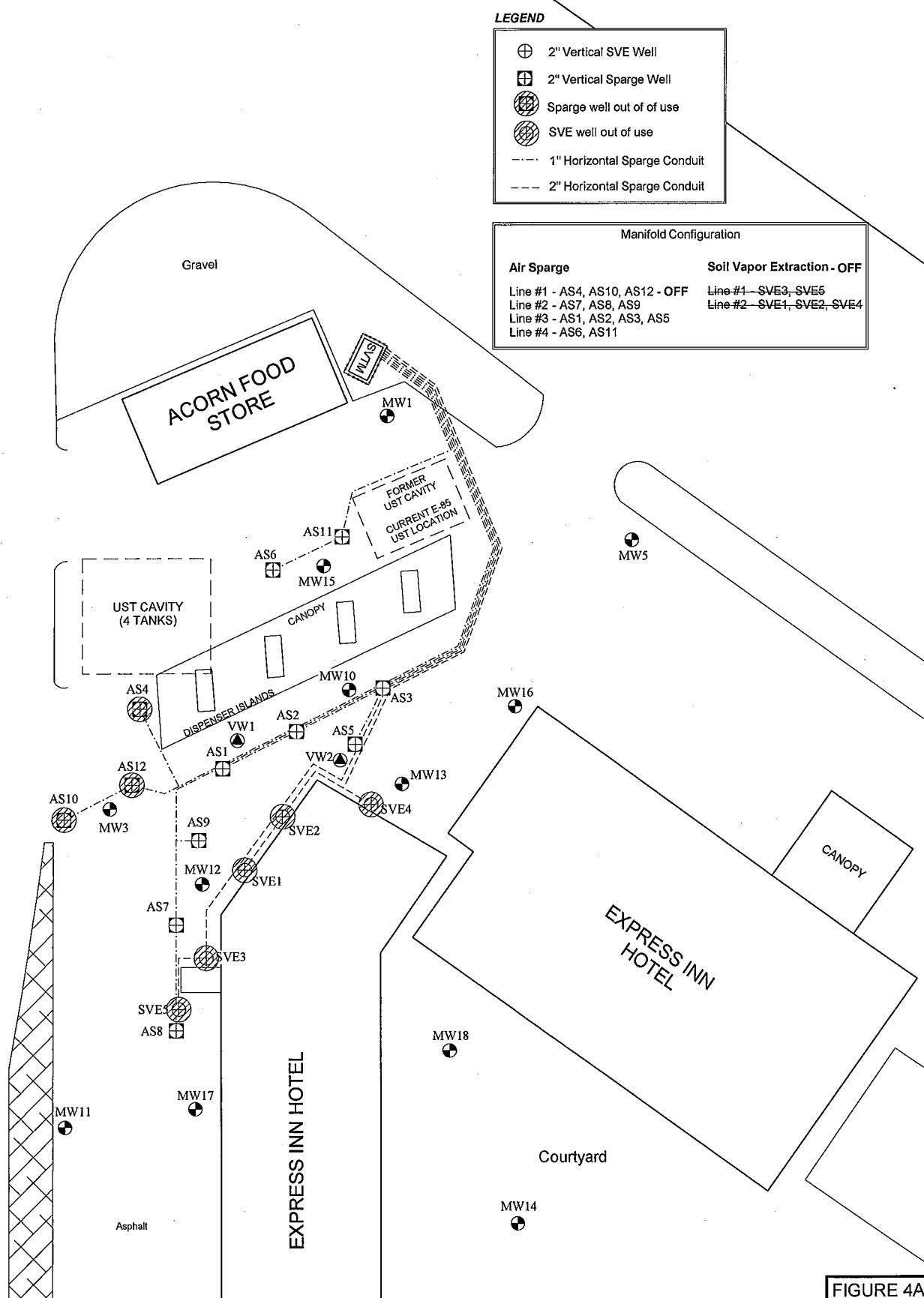


FIGURE 4A

JOB NUMBER: ACN1607B

AS/SVE SYSTEM AS BUILT

SCALE: 1" = 50'

DRAWN BY: AM

DATE: 12-30-13

ACORN-8TH STREET FOOD STORE
305 SOUTH 8TH STREET
COLORADO SPRINGS, COLORADO



8 x 12 Steel Trailer

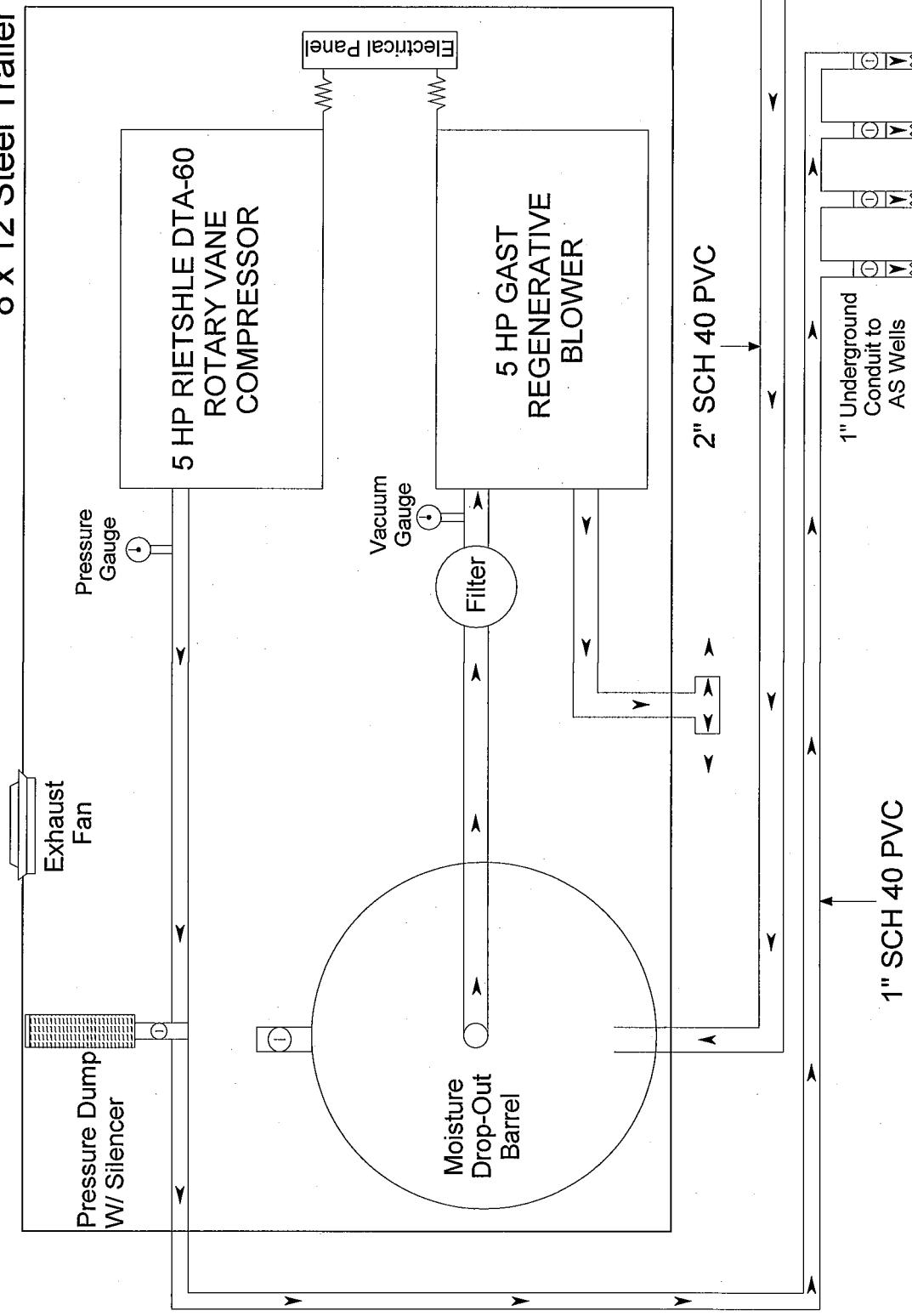


FIGURE 4B

AS/SVE SYSTEM PROCESS DIAGRAM

JOB NUMBER: ACN1607B

SCALE: NOT TO SCALE

DRAWN BY: AM

DATE: 12-09-13

ACORN-8TH STREET FOOD STORE
305 SOUTH 8TH STREET
COLORADO SPRINGS, COLORADO



N

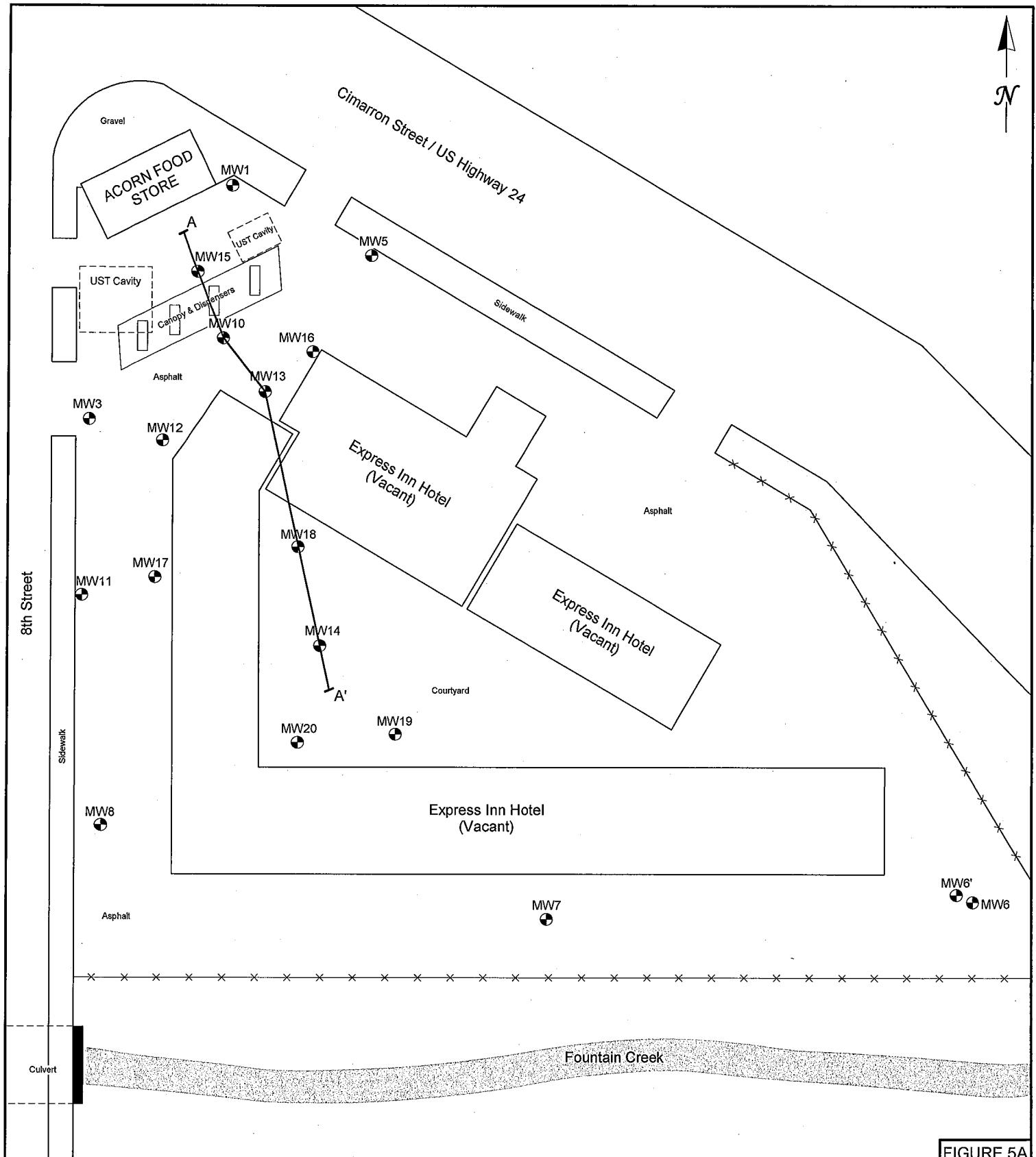


FIGURE 5A

JOB NUMBER: ACN1607B		CROSS SECTION A-A' LOCATION	GSC GEOLOGIC SERVICES & CONSULTANTS			
SCALE: 1" = 80'		ACORN-8TH STREET FOOD STORE 305 SOUTH 8TH STREET COLORADO SPRINGS, COLORADO				
DRAWN BY: AM						
DATE: 12-09-13						

A'

A

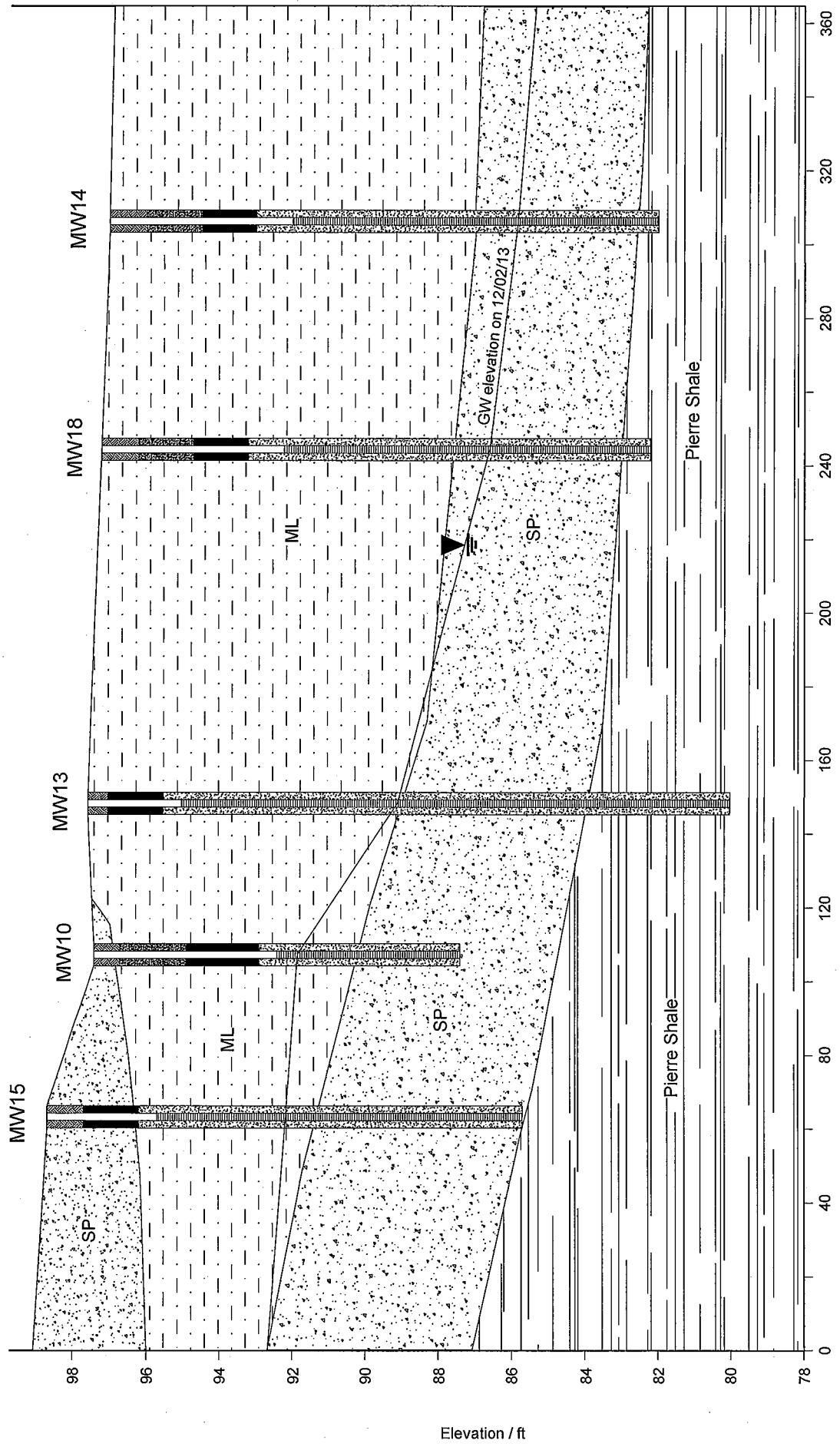


FIGURE 5B



CROSS SECTION A-A'

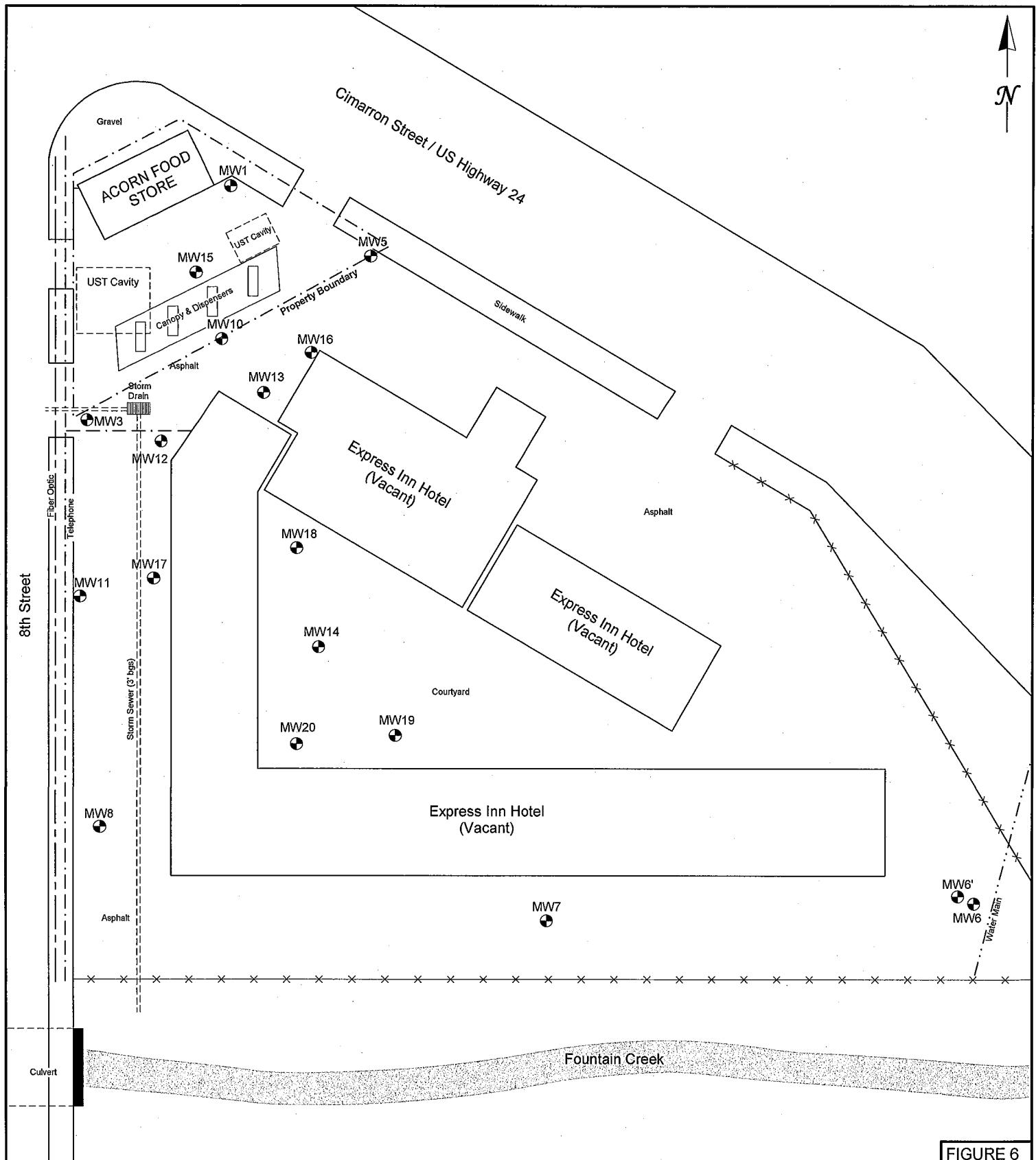
JOB NUMBER: ACN1706B

V. EXAGGERATION: x10

DRAWN BY: AM

DATE: 12-09-13

ACORN-8TH STREET FOOD STORE
305 SOUTH 8TH STREET
COLORADO SPRINGS, COLORADO



JOB NUMBER: ACN1607B	POINTS OF EXPOSURE (POE) MAP	GSC GEOLOGIC SERVICES & CONSULTANTS
SCALE: 1" = 80'		
DRAWN BY: AM		
DATE: 12-09-13		

ACORN-8TH STREET FOOD STORE
305 SOUTH 8TH STREET
COLORADO SPRINGS, COLORADO

COGAC Injection Point Location
COGAC Injection Event 1 conducted from 11-05-13 to 11-11-13

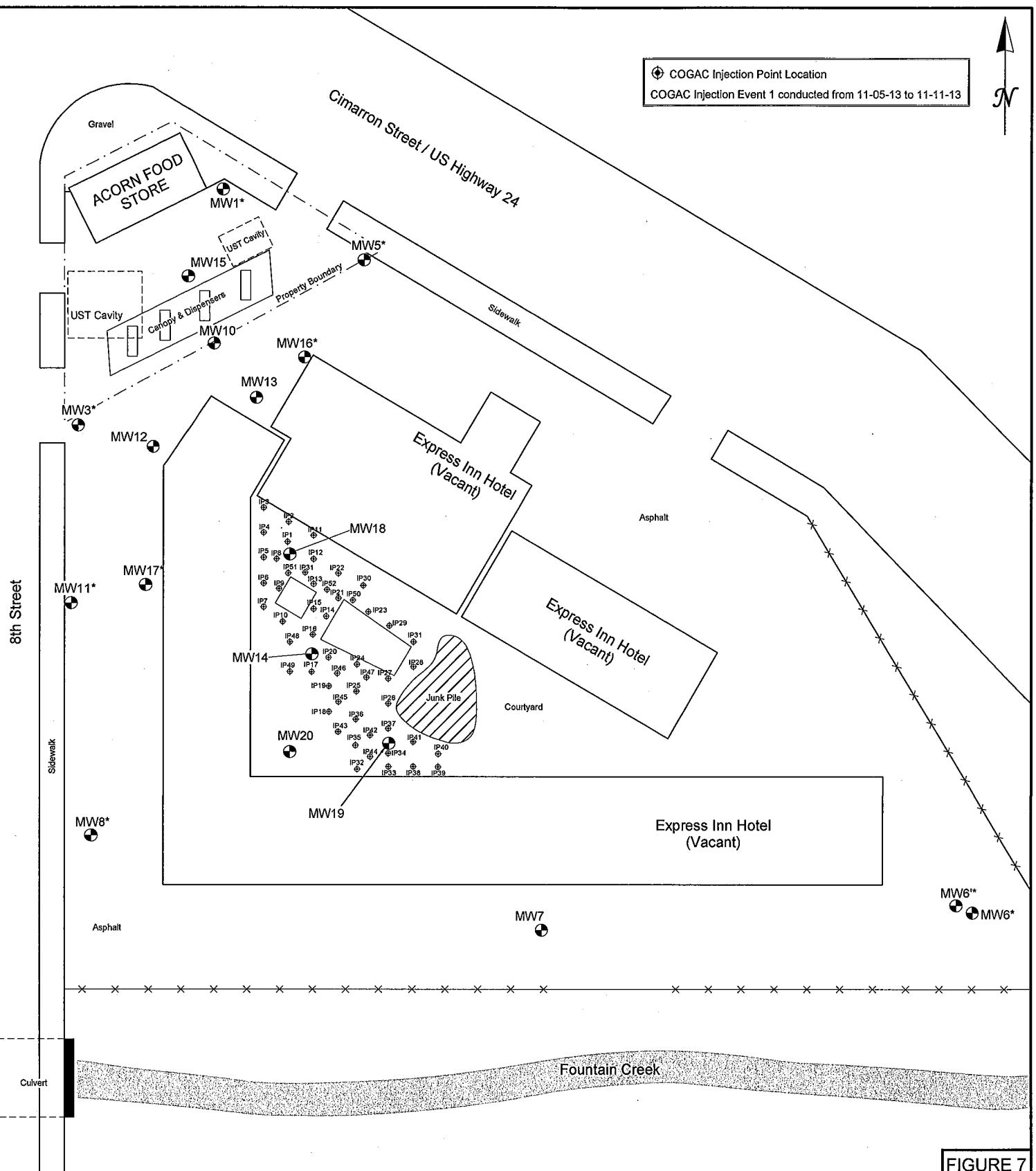


FIGURE 7

JOB NUMBER: ACN1607B	COGAC INJECTION LOCATIONS (EVENT 1)	 GSC <small>GEOLOGIC SERVICES & CONSULTANTS</small>
SCALE: 1" = 80'		
DRAWN BY: AM		
DATE: 12-30-13		

INJECTION LOG

JOB NAME: Acorn Food Store

JOB NUMBER: ACN1607B (EID 6488)

SITE LOCATION: 305 S. 8th St., CO Springs, CO

DATE: 11/5/13 - 11/11/13



Injection Point #	Depth (ft)	Water (gal)	COGAC (lbs)	Flow Rate (gpm)	Pressure (psi)	Notes
IP1	13	25	25	3.75	10	MW18 DO _I = 0.20 mg/L
	11	25	25	15	5	
	9	25	25	20	5	MW18 DO _F = 0.60 mg/L
IP2	13	25	25	11.45	5	
	11	25	25	10	5	
	9	25	25	8.47	5	
IP3	13	25	25	7.32	5	
	11	25	25	6.22	5	
	9	25	25	8.2	5	
IP4	13	25	25	8.33	5	
	11	25	25	7.5	5	
	9	25	25	6.17	5	
IP5	13	25	25	6.44	5	
	11	25	25	5.58	5	
	9	25	25	6.55	5	
IP6	13	25	25	7.17	5	
	11	25	25	4.64	10	
	9	25	25	6.84	5	

	13	25	25	10	5	
IP7	11	25	25	7.5	5	
	9	25	25	8.82	5	Surfaced around equipment. Raised 0.5 feet. End Day.
	13	25	25	6.91	5	Pressure in MW18 increased to 0.75" H2O.
IP8	11	25	25	8.52	5	Pressure in MW18 increased to 0.90" H2O.
	9	25	25	7.69	5	Pressure in MW18 increased to 1.0" H2O. MW18 DO _F = 9.25 mg/L
	13	25	25	9.38	5	
IP9	11	25	25	7.81	5	
	9	25	25	8.24	5	Surfaced around equipment. Raised 0.5 feet.
	13	25	25	9.38	5	
IP10	11	25	25	8.52	5	
	9	25	25	6.88	5	
	13	25	25	12.50	5	
IP11	11	25	25	7.69	5	
	9	25	25	9.20	5	
	13	25	25	8.52	5	
IP12	11	25	25	9.62	5	
	9	25	25	9.38	5	Surfaced through IP8
	13	25	25	9.55	5	
IP13	11	25	25	7.14	5	
	9	25	25	8.93	5	
	13	25	25	8.82	5	
IP14	11	25	25	10.20	5	
	9	25	25	5.42	5	

		13	25	25	25	10.00	5	
IP15	11	25	25	25	7.69	5		
	9	25	25	25	7.50	5		
IP16	13	25	25	8.33	5	MW14 DO _I = 0.69 mg/L		
	11	25	25	8.52	5			
IP17	9	50	50	9.09	5	MW14 DO _F = 2.30 mg/L		
	13	25	25	12.50	5	Pressure in MW14 increased to 0.75" H2O.		
IP18	11	25	25	7.89	5			
	9	25	25	9.20	5			
IP19	13	25	25	10.95	5			
	11	25	25	7.94	5			
IP20	9	25	25	10.00	5			
	13	25	25	11.81	5			
IP21	11	25	25	9.68	5			
	9	25	25	9.68	5			
IP22	13	25	25	10.34	5			
	11	25	25	11.36	5	COGAC visible in MW14.		
	9	50	50	11.11	5			
	13	25	25	10.00	5			
	11	25	25	7.39	5			
	9	25	25	7.81	5			
	13	25	25	11.90	5			
	11	25	25	11.11	5			
	9	25	25	9.62	5			

		13	25	25	12.00	5	
IP23	11	25	25	9.09	5		
	9	25	25	9.38	5		End Day
	13	25	25	12.50	5		
IP24	11	25	25	10.87	5		
	9	25	25	10.27	5		
	13	25	25	9.43	5		
IP25	11	25	25	10.00	5		
	9	25	25	8.57	5		
	13	25	25	8.57	5		
IP26	11	25	25	9.87	5		
	9	25	25	7.81	5		
	13	25	25	9.80	5		
IP27	11	25	25	7.98	5		
	9	25	25	10.34	5		
	13	25	25	10.34	5		
IP28	11	25	25	11.11	5		
	9	25	25	7.28	5		
	13	25	25	8.62	5		
IP29	11	25	25	6.67	5		
	9	25	25	4.55	10		
	13	25	25	5.00	10		
IP30	11	25	25	4.03	15		
	9	.....	.....	.....	.....

		13	25	25	6.25	10	
IP31	11	25	25	7.04	10		
	9	.....	.....	.....	.....
	13	25	25	6.91	5		
IP32	11	25	25	7.28	5		
	9	25	25	6.67	5		
	13	25	25	7.50	5		
IP33	11	25	25	5.81	5		
	9	25	25	5.88	5		
	13	25	25	6.00	5		
IP34	11	25	25	6.58	5		
	9	25	25	6.00	5		
	13	25	25	12.00	5		
IP35	11	25	25	10.71	5		
	9	25	25	7.32	5		
	13	25	25	2.50	20		
IP36	11	50	50	4.35	20		
	9	.....	.....	.....	.....
	13	50	50	4.00	20		
IP37	11	25	25	2.50	20	Pump malfunction. End Day	
	9	.....	.....	.....	.....
	13	25	25	8.33	5		
IP38	11	25	25	8.33	5		
	9	25	25	8.33	5		

		13	25	25	8.33	5
IP39	11	25	25	8.33	5	
	9	25	25	8.33	5	
IP40	13	25	25	8.06	5	
	11	25	25	10.71	5	
IP41	9	25	25	8.82	5	
	13	25	25	8.98	5	
IP42	11	25	25	9.04	5	
	9	25	25	9.93	5	
IP43	13	25	25	11.11	5	
	11	50	50	9.65	5	
IP44	9	25	25	9.87	5	Surfaced around equipment. Raised 0.5 feet.
	13	25	25	8.67	5	
IP45	11	50	50	9.26	5	
	9	25	25	8.62	5	
IP46	13	25	25	8.29	5	
	11	50	50	9.23	5	
	9	25	25	10.64	5	COGAC visible in MW19. End Week.
	13	25	25	12.50	5	
	11	25	25	8.82	5	
	9	25	25	10.56	5	
	13	25	25	10.64	5	
	11	25	25	9.32	5	
	9	25	25	9.74	5	

	13	25	25	8.29	5	
IP47	11	25	25	9.55	5	
	9	25	25	11.11	5	
	13	25	25	12.00	5	
IP48	11	25	25	9.38	5	
	9	25	25	10.49	5	
	13	25	25	12.40	5	
IP49	11	25	25	10.27	5	
	9	25	25	11.90	5	
	13	25	25	7.61	5	
IP50	11	25	25	9.87	5	
	9	25	25	9.04	5	
	13	25	25	10.71	5	
IP51	11	50	50	10.14	5	
	9	25	25	12.30	5	
	13	25	25	12.50	5	
IP52	11	25	25	8.82	5	
	9	25	25	12.00	5	
	Total	4000	4000	.....	.....
			Average	8.87	5.66	



Environmental Chemistry Services, Inc.
2 Oakwood Park Plaza; 100
Castle Rock, CO 80104-1885
TEL: (303) 850-7606 FAX: (303) 850-7609
Website: www.ecs-corp.com

Clint Wagner
Geologic Services and Consultants, Inc.
2185 Executive Circle
Colorado Springs, CO 80906
Tel: (719) 579-8066
Fax: (719) 579-8028

December 09, 2013

Project Name: Acorn 8th Street Food Store
Project No.: ACN1607B

Work Order: 1312006

Dear Clint Wagner:

Environmental Chemistry Services, Inc. received 8 sample(s) on 12/3/2013 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report, , unless noted in the Case Narrative.

Quality control data is within laboratory defined or method specified acceptance limits except if noted.

If you have any questions regarding these tests results, please feel free to call or email.

TEL: (303) 850-7606 ext:300
kris@ecs-corp.com

Sincerely,

A handwritten signature in black ink, appearing to read "Kris Mascarenas".

Kris Mascarenas
Director of Client Services



Environmental Chemistry Services, Inc.
2 Oakwood Park Plaza; 100
Castle Rock, CO 80104-1885
TEL: (303) 850-7606 FAX: (303) 850-7609
Website: www.ecs-corp.com

Case Narrative

WO#: 1312006
Date: 12/9/2013

CLIENT: Geologic Services and Consultants, Inc.
Project: Acorn 8th Street Food Store

This report in its entirety consists of the documents listed below. All documents contain the Environmental Chemistry Services, Inc. Work Order Number assigned to this report.

1. Paginated Report including: A Cover Letter, Case Narrative, Analytical Results, and Applicable Quality Control Reports.
2. Copies of the Chain of Custody Document(s) supplied with this sample set.
3. Electronic Data Deliverables (EDD) if requested.

Samples were analyzed for BTEX by EPA Method 8260B. This is a gas chromatography/mass spectrometry method using purge and trap concentration and a capillary chromatography column. The surrogate standards are added to monitor purging efficiency.

Samples were analyzed for Nitrate, Sulfate, Alkalinity, Total Iron, Ferrous Iron, and COD using various titrimetric and spectrophotometric methods.

Any comments or problems with the analytical events associated with this report are noted below.

Environmental Chemistry Services, Inc.

Date: 09-Dec-13

Client:	Geologic Services and Consultants, Inc.	Client Sample ID:	MW7
Work Order:	1312006	Canister ID:	
Project:	Acorn 8th Street Food Store	Collection Date:	12/2/2013 9:40:00 AM
Lab ID:	1312006-01A	Matrix:	WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
BTEX				Method: SW8260B		
Benzene	ND	0.0010		mg/L	1	12/4/2013 8:17:00 AM
Toluene	ND	0.0010		mg/L	1	12/4/2013 8:17:00 AM
Ethyl benzene	ND	0.0010		mg/L	1	12/4/2013 8:17:00 AM
Xylenes, Total	ND	0.0010		mg/L	1	12/4/2013 8:17:00 AM
Surr: 4-Bromofluorobenzene	89.4	50-150		%REC	1	12/4/2013 8:17:00 AM
Surr: Toluene-d8	91.8	50-150		%REC	1	12/4/2013 8:17:00 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	D	Dilution was required.
	DF	Dilution Factor	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the RL
	O	RSD is greater than RSDlimit	RL	Reporting Limit
	S	Spike Recovery outside accepted recovery limits		

Environmental Chemistry Services, Inc.**Date: 09-Dec-13****Client:** Geologic Services and Consultants, Inc.**Client Sample ID:** MW10**Work Order:** 1312006**Canister ID:****Project:** Acorn 8th Street Food Store**Collection Date:** 12/2/2013 10:00:00 AM**Lab ID:** 1312006-02A**Matrix:** WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
BTEX			Method:	SW8260B		
Benzene	ND	0.0010		mg/L	1	Analyst: KM 12/4/2013 8:43:00 AM
Toluene	ND	0.0010		mg/L	1	12/4/2013 8:43:00 AM
Ethyl benzene	ND	0.0010		mg/L	1	12/4/2013 8:43:00 AM
Xylenes, Total	ND	0.0010		mg/L	1	12/4/2013 8:43:00 AM
Surr: 4-Bromofluorobenzene	87.7	50-150		%REC	1	12/4/2013 8:43:00 AM
Surr: Toluene-d8	91.1	50-150		%REC	1	12/4/2013 8:43:00 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	D	Dilution was required.
	DF	Dilution Factor	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the RL
	O	RSD is greater than RSDlimit	RL	Reporting Limit
	S	Spike Recovery outside accepted recovery limits		

Environmental Chemistry Services, Inc.

Date: 09-Dec-13

Client: Geologic Services and Consultants, Inc.**Client Sample ID:** MW12**Work Order:** 1312006**Canister ID:****Project:** Acorn 8th Street Food Store**Collection Date:** 12/2/2013 12:07:00 PM**Lab ID:** 1312006-03A**Matrix:** WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
BTEX			Method:	SW8260B		
Benzene	0.030	0.0010		mg/L	1	12/4/2013 9:10:00 AM
Toluene	ND	0.0010		mg/L	1	12/4/2013 9:10:00 AM
Ethyl benzene	0.0091	0.0010		mg/L	1	12/4/2013 9:10:00 AM
Xylenes, Total	ND	0.0010		mg/L	1	12/4/2013 9:10:00 AM
Surr: 4-Bromofluorobenzene	95.5	50-150		%REC	1	12/4/2013 9:10:00 AM
Surr: Toluene-d8	93.4	50-150		%REC	1	12/4/2013 9:10:00 AM

Qualifiers: B Analyte detected in the associated Method Blank
DF Dilution Factor
H Holding times for preparation or analysis exceeded
O RSD is greater than RSDLimit
S Spike Recovery outside accepted recovery limits

D Dilution was required.
E Value above quantitation range
ND Not Detected at the RL
RL Reporting Limit

Environmental Chemistry Services, Inc.**Date: 09-Dec-13****Client:** Geologic Services and Consultants, Inc.**Client Sample ID:** MW13**Work Order:** 1312006**Canister ID:****Project:** Acorn 8th Street Food Store**Collection Date:** 12/2/2013 12:30:00 PM**Lab ID:** 1312006-04A**Matrix:** WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
BTEX				Method: SW8260B		
Benzene	0.015	0.0010		mg/L	1	Analyst: KM 12/4/2013 9:36:00 AM
Toluene	0.0022	0.0010		mg/L	1	12/4/2013 9:36:00 AM
Ethyl benzene	0.087	0.0010		mg/L	1	12/4/2013 9:36:00 AM
Xylenes, Total	0.0023	0.0010		mg/L	1	12/4/2013 9:36:00 AM
Surr: 4-Bromofluorobenzene	92.4	50-150		%REC	1	12/4/2013 9:36:00 AM
Surr: Toluene-d8	90.7	50-150		%REC	1	12/4/2013 9:36:00 AM

Qualifiers: B Analyte detected in the associated Method Blank
DF Dilution Factor
H Holding times for preparation or analysis exceeded
O RSD is greater than RSDlimit
S Spike Recovery outside accepted recovery limits

D Dilution was required.
E Value above quantitation range
ND Not Detected at the RL
RL Reporting Limit

Environmental Chemistry Services, Inc.**Date:** 09-Dec-13

Client:	Geologic Services and Consultants, Inc.	Client Sample ID:	MW14
Work Order:	1312006	Canister ID:	
Project:	Acorn 8th Street Food Store	Collection Date:	12/2/2013 11:07:00 AM
Lab ID:	1312006-05A	Matrix:	WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
BTEX				Method: SW8260B		
Benzene	ND	0.0010		mg/L	1	12/4/2013 10:03:00 AM
Toluene	ND	0.0010		mg/L	1	12/4/2013 10:03:00 AM
Ethyl benzene	ND	0.0010		mg/L	1	12/4/2013 10:03:00 AM
Xylenes, Total	ND	0.0010		mg/L	1	12/4/2013 10:03:00 AM
Surr: 4-Bromofluorobenzene	85.4	50-150		%REC	1	12/4/2013 10:03:00 AM
Surr: Toluene-d8	90.5	50-150		%REC	1	12/4/2013 10:03:00 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	D	Dilution was required.
	DF	Dilution Factor	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the RL
	O	RSD is greater than RSDlimit	RL	Reporting Limit
	S	Spike Recovery outside accepted recovery limits		

Environmental Chemistry Services, Inc.

Date: 09-Dec-13

Client:	Geologic Services and Consultants, Inc.	Client Sample ID:	MW14
Work Order:	1312006	Canister ID:	
Project:	Acorn 8th Street Food Store	Collection Date:	12/2/2013 11:07:00 AM
Lab ID:	1312006-05B	Matrix:	WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
IRON, FERROUS IN WATER						
Iron, Ferrous	0.64	0.020	D	mg/L	1	Analyst: TSM 12/3/2013 4:33:00 PM
IRON, TOTAL IN WATER						
Iron	9.5	0.20	D	mg/L	10	Analyst: TSM 12/7/2013 1:43:00 PM
TOTAL ALKALINITY IN WATER						
Alkalinity, Total (As CaCO ₃)	780	10		mg/L CaCO ₃	1	Analyst: TSM 12/7/2013 1:03:00 PM
CHEMICAL OXYGEN DEMAND						
Chemical Oxygen Demand	38	3.0		mg/L	1	Analyst: TSM 12/7/2013 1:23:00 PM
NITRATE (NO₃)						
Nitrate	3.9	0.30		mg/L	1	Analyst: TSM 12/3/2013 4:43:00 PM
SULFATE (SO₄)						
Sulfate	320	50	D	mg/L	25	Analyst: TSM 12/3/2013 5:03:00 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	D	Dilution was required.
	DF	Dilution Factor	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the RL
	O	RSD is greater than RSDlimit	RL	Reporting Limit
	S	Spike Recovery outside accepted recovery limits		

Environmental Chemistry Services, Inc.

Date: 09-Dec-13

Client: Geologic Services and Consultants, Inc. **Client Sample ID:** MW15
Work Order: 1312006 **Canister ID:**
Project: Acorn 8th Street Food Store **Collection Date:** 12/2/2013 12:50:00 PM
Lab ID: 1312006-06A **Matrix:** WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
BTEX				Method: SW8260B		Analyst: KM
Benzene	0.0031	0.0010		mg/L	1	12/4/2013 10:30:00 AM
Toluene	ND	0.0010		mg/L	1	12/4/2013 10:30:00 AM
Ethyl benzene	0.0014	0.0010		mg/L	1	12/4/2013 10:30:00 AM
Xylenes, Total	ND	0.0010		mg/L	1	12/4/2013 10:30:00 AM
Surr: 4-Bromofluorobenzene	82.9	50-150		%REC	1	12/4/2013 10:30:00 AM
Surr: Toluene-d8	91.6	50-150		%REC	1	12/4/2013 10:30:00 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	D	Dilution was required.
	DF	Dilution Factor	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the RL
	O	RSD is greater than RSDlimit	RL	Reporting Limit
	S	Spike Recovery outside accepted recovery limits		

Environmental Chemistry Services, Inc.

Date: 09-Dec-13

Client: Geologic Services and Consultants, Inc.**Client Sample ID:** MW18**Work Order:** 1312006**Canister ID:****Project:** Acorn 8th Street Food Store**Collection Date:** 12/2/2013 11:35:00 AM**Lab ID:** 1312006-07A**Matrix:** WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
BTEX				Method: SW8260B		
Benzene	ND	0.0010		mg/L	1	12/4/2013 10:56:00 AM
Toluene	ND	0.0010		mg/L	1	12/4/2013 10:56:00 AM
Ethyl benzene	ND	0.0010		mg/L	1	12/4/2013 10:56:00 AM
Xylenes, Total	ND	0.0010		mg/L	1	12/4/2013 10:56:00 AM
Surr: 4-Bromofluorobenzene	88.8	50-150		%REC	1	12/4/2013 10:56:00 AM
Surr: Toluene-d8	92.4	50-150		%REC	1	12/4/2013 10:56:00 AM

Qualifiers: B Analyte detected in the associated Method Blank
DF Dilution Factor
H Holding times for preparation or analysis exceeded
O RSD is greater than RSdlimit
S Spike Recovery outside accepted recovery limits

D Dilution was required.
E Value above quantitation range
ND Not Detected at the RL
RL Reporting Limit

Environmental Chemistry Services, Inc.

Date: 09-Dec-13

Client:	Geologic Services and Consultants, Inc.	Client Sample ID:	MW18
Work Order:	1312006	Canister ID:	
Project:	Acorn 8th Street Food Store	Collection Date:	12/2/2013 11:35:00 AM
Lab ID:	1312006-07B	Matrix:	WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
IRON, FERROUS IN WATER						
Iron, Ferrous	0.080	0.020		mg/L	1	Analyst: TSM 12/3/2013 4:34:00 PM
IRON, TOTAL IN WATER						
Iron	2.7	0.020		mg/L	1	Analyst: TSM 12/7/2013 1:44:00 PM
TOTAL ALKALINITY IN WATER						
Alkalinity, Total (As CaCO ₃)	390	10		mg/L CaCO ₃	1	Analyst: TSM 12/7/2013 1:04:00 PM
CHEMICAL OXYGEN DEMAND						
Chemical Oxygen Demand	34	3.0		mg/L	1	Analyst: TSM 12/7/2013 1:24:00 PM
NITRATE (NO₃)						
Nitrate	8.8	0.30		mg/L	1	Analyst: TSM 12/3/2013 4:44:00 PM
SULFATE (SO₄)						
Sulfate	580	50	D	mg/L	25	Analyst: TSM 12/3/2013 5:04:00 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	D	Dilution was required.
	DF	Dilution Factor	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the RL
	O	RSD is greater than RSDlimit	RL	Reporting Limit
	S	Spike Recovery outside accepted recovery limits		

Environmental Chemistry Services, Inc.

Date: 09-Dec-13

Client:	Geologic Services and Consultants, Inc.	Client Sample ID:	MW19
Work Order:	1312006	Canister ID:	
Project:	Acorn 8th Street Food Store	Collection Date:	12/2/2013 10:35:00 AM
Lab ID:	1312006-08A	Matrix:	WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
BTEX				Method: SW8260B		
Benzene	ND	0.0010		mg/L	1	12/4/2013 11:23:00 AM
Toluene	ND	0.0010		mg/L	1	12/4/2013 11:23:00 AM
Ethyl benzene	ND	0.0010		mg/L	1	12/4/2013 11:23:00 AM
Xylenes, Total	ND	0.0010		mg/L	1	12/4/2013 11:23:00 AM
Surr: 4-Bromofluorobenzene	86.9	50-150		%REC	1	12/4/2013 11:23:00 AM
Surr: Toluene-d8	92.2	50-150		%REC	1	12/4/2013 11:23:00 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	D	Dilution was required.
	DF	Dilution Factor	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the RL
	O	RSD is greater than RSdlimit	RL	Reporting Limit
	S	Spike Recovery outside accepted recovery limits		

Environmental Chemistry Services, Inc.

Date: 09-Dec-13

Client:	Geologic Services and Consultants, Inc.	Client Sample ID:	MW19
Work Order:	1312006	Canister ID:	
Project:	Acorn 8th Street Food Store	Collection Date:	12/2/2013 10:35:00 AM
Lab ID:	1312006-08B	Matrix:	WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
IRON, FERROUS IN WATER						
Iron, Ferrous	0.020	0.020		mg/L	1	Analyst: TSM 12/3/2013 4:35:00 PM
IRON, TOTAL IN WATER						
Iron	0.84	0.020		mg/L	1	Analyst: TSM 12/7/2013 1:45:00 PM
TOTAL ALKALINITY IN WATER						
Alkalinity, Total (As CaCO ₃)	490	10		mg/L CaCO ₃	1	Analyst: TSM 12/7/2013 1:05:00 PM
CHEMICAL OXYGEN DEMAND						
Chemical Oxygen Demand	25	3.0		mg/L	1	Analyst: TSM 12/7/2013 1:25:00 PM
NITRATE (NO₃)						
Nitrate	3.3	0.30		mg/L	1	Analyst: TSM 12/3/2013 4:45:00 PM
SULFATE (SO₄)						
Sulfate	1,000	50	D	mg/L	25	Analyst: TSM 12/3/2013 5:05:00 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	D	Dilution was required.
	DF	Dilution Factor	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the RL
	O	RSD is greater than RSDlimit	RL	Reporting Limit
	S	Spike Recovery outside accepted recovery limits		



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QC SUMMARY REPORT

Work Order: 1312006
09-Dec-13

Client: Geologic Services and Consultants, Inc.
Project: Acorn 8th Street Food Store

Sample ID	MBLK	SampType: MBLK	TestCode: FERROUS IR	Units: mg/L	Prep Date: 12/3/2013	RunNo: 740						
Client ID:	PBW	Batch ID: 120313A	TestNo: H8146		Analysis Date: 12/3/2013	SeqNo: 10183						
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron, Ferrous		ND	0.020									

Sample ID	LCS	SampType: LCS	TestCode: FERROUS IR	Units: mg/L	Prep Date: 12/3/2013	RunNo: 740						
Client ID:	LCSW	Batch ID: 120313A	TestNo: H8146		Analysis Date: 12/3/2013	SeqNo: 10184						
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron, Ferrous		0.97	0.020	1.000	0	97.0	70	130				

Sample ID	LCSD	SampType: LCSD	TestCode: FERROUS IR	Units: mg/L	Prep Date: 12/3/2013	RunNo: 740						
Client ID:	LCSS02	Batch ID: 120313A	TestNo: H8146		Analysis Date: 12/3/2013	SeqNo: 10185						
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron, Ferrous		1.0	0.020	1.000	0	101	70	130	0.9700	4.04	30	

Qualifiers: B Analyte detected in the associated Method Blank
E Value above quantitation range
O RSD is greater than RSDLimit
S Spike Recovery outside accepted recovery limits

D Dilution was required.
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits

DF Dilution Factor
ND Not Detected at the RL
RL Reporting Limit



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QC SUMMARY REPORT

Work Order: 1312006
09-Dec-13

Client: Geologic Services and Consultants, Inc.
Project: Acorn 8th Street Food Store

Sample ID	MBLK	SampType: MBLK	TestCode: NITRATE_W	Units: mg/L	Prep Date:	12/3/2013	RunNo:	741				
Client ID:	PBW	Batch ID: 120313B	TestNo: H8039		Analysis Date:	12/3/2013	SeqNo:	10189				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate		ND	0.30									

Sample ID	LCS	SampType: LCS	TestCode: NITRATE_W	Units: mg/L	Prep Date:	12/3/2013	RunNo:	741				
Client ID:	LCSW	Batch ID: 120313B	TestNo: H8039		Analysis Date:	12/3/2013	SeqNo:	10190				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate		9.8	0.30	10.00	0	98.0	70	130				

Sample ID	LCSD	SampType: LCSD	TestCode: NITRATE_W	Units: mg/L	Prep Date:	12/3/2013	RunNo:	741				
Client ID:	LCSS02	Batch ID: 120313B	TestNo: H8039		Analysis Date:	12/3/2013	SeqNo:	10191				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate		10	0.30	10.00	0	100	70	130	9.800	2.02	30	

Qualifiers: B Analyte detected in the associated Method Blank
E Value above quantitation range
O RSD is greater than RSDDlimit
S Spike Recovery outside accepted recovery limits

D Dilution was required.
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits

DF Dilution Factor
ND Not Detected at the RL
RL Reporting Limit



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QC SUMMARY REPORT

Work Order: 1312006
09-Dec-13

Client: Geologic Services and Consultants, Inc.
Project: Acorn 8th Street Food Store

Sample ID	MBLK	SampType: MBLK	TestCode: SULFATE_W	Units: mg/L	Prep Date: 12/3/2013	RunNo: 742						
Client ID:	PBW	Batch ID: 120313C	TestNo: H8051		Analysis Date: 12/3/2013	SeqNo: 10195						
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate		ND	2.0									

Sample ID	LCS	SampType: LCS	TestCode: SULFATE_W	Units: mg/L	Prep Date: 12/3/2013	RunNo: 742						
Client ID:	LCSW	Batch ID: 120313C	TestNo: H8051		Analysis Date: 12/3/2013	SeqNo: 10196						
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate		47	2.0	50.00	0	94.0	70	130				

Sample ID	LCSD	SampType: LCSD	TestCode: SULFATE_W	Units: mg/L	Prep Date: 12/3/2013	RunNo: 742						
Client ID:	LCSS02	Batch ID: 120313C	TestNo: H8051		Analysis Date: 12/3/2013	SeqNo: 10197						
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate		50	2.0	50.00	0	100	70	130	47.00	6.19	30	

Qualifiers:	B	Analyte detected in the associated Method Blank	D	Dilution was required.	DF	Dilution Factor
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the RL
	O	RSD is greater than RSDLimit	R	RPD outside accepted recovery limits	RL	Reporting Limit
	S	Spike Recovery outside accepted recovery limits				



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QC SUMMARY REPORT

Work Order: 1312006
09-Dec-13

Client: Geologic Services and Consultants, Inc.
Project: Acorn 8th Street Food Store

Sample ID	MBLK	SampType: MBLK	TestCode: ALKALINITY_	Units: mg/L CaCO3	Prep Date:	12/7/2013	RunNo:	747				
Client ID:	PBW	Batch ID: 120713A	TestNo: E310.1		Analysis Date:	12/7/2013	SeqNo:	10231				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)		ND	10									

Sample ID	LCS	SampType: LCS	TestCode: ALKALINITY_	Units: mg/L CaCO3	Prep Date:	12/7/2013	RunNo:	747				
Client ID:	LCSW	Batch ID: 120713A	TestNo: E310.1		Analysis Date:	12/7/2013	SeqNo:	10232				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)		50	10	50.00	0	100	70	130				

Sample ID	LCSD	SampType: LCSD	TestCode: ALKALINITY_	Units: mg/L CaCO3	Prep Date:	12/7/2013	RunNo:	747				
Client ID:	LCSS02	Batch ID: 120713A	TestNo: E310.1		Analysis Date:	12/7/2013	SeqNo:	10233				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)		50	10	50.00	0	100	70	130	50.00	0	30	

Qualifiers: B Analyte detected in the associated Method Blank D Dilution was required.
E Value above quantitation range H Holding times for preparation or analysis exceeded
O RSD is greater than RSDLimit R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

DF Dilution Factor
ND Not Detected at the RL
RL Reporting Limit



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QC SUMMARY REPORT

Work Order: 1312006
09-Dec-13

Client: Geologic Services and Consultants, Inc.
Project: Acorn 8th Street Food Store

Sample ID	MBLK	SampType: MBLK	TestCode: COD	Units: mg/L	Prep Date: 12/7/2013	RunNo: 744						
Client ID:	PBW	Batch ID: 120713B	TestNo: E410.4		Analysis Date: 12/7/2013	SeqNo: 10207						
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chemical Oxygen Demand		ND	3.0									

Sample ID	LCS	SampType: LCS	TestCode: COD	Units: mg/L	Prep Date: 12/8/2013	RunNo: 744						
Client ID:	LCSW	Batch ID: 120713B	TestNo: E410.4		Analysis Date: 12/7/2013	SeqNo: 10208						
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chemical Oxygen Demand		300	3.0	300.0	0	101	70	130				

Sample ID	LCSD	SampType: LCSD	TestCode: COD	Units: mg/L	Prep Date: 12/9/2013	RunNo: 744						
Client ID:	LCSS02	Batch ID: 120713B	TestNo: E410.4		Analysis Date: 12/7/2013	SeqNo: 10209						
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chemical Oxygen Demand		300	3.0	300.0	0	102	70	130	304.0	0.328	30	

Qualifiers: B Analyte detected in the associated Method Blank
E Value above quantitation range
O RSD is greater than RSDLimit
S Spike Recovery outside accepted recovery limits

D Dilution was required
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits

DF Dilution Factor
ND Not Detected at the RL
RL Reporting Limit



Environmental Chemistry Services, Inc.
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Castle Rock, CO 80104-1885
TEL: (303) 850-7606 FAX: (303) 850-7609
Website: www.ecs-corp.com

QC SUMMARY REPORT

Work Order: 1312006
09-Dec-13

Client: Geologic Services and Consultants, Inc.
Project: Acorn 8th Street Food Store

Sample ID	MBLK	SampType: MBLK	TestCode: IRON_W	Units: mg/L	Prep Date: 12/7/2013	RunNo: 743						
Client ID:	PBW	Batch ID: 120713C	TestNo: H8008		Analysis Date: 12/7/2013	SeqNo: 10201						
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron		ND	0.020									

Sample ID	LCS	SampType: LCS	TestCode: IRON_W	Units: mg/L	Prep Date: 12/8/2013	RunNo: 743						
Client ID:	LCSW	Batch ID: 120713C	TestNo: H8008		Analysis Date: 12/7/2013	SeqNo: 10202						
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron		0.99	0.020	1.000	0	99.0	70	130				

Sample ID	LCSD	SampType: LCSD	TestCode: IRON_W	Units: mg/L	Prep Date: 12/9/2013	RunNo: 743						
Client ID:	LCS02	Batch ID: 120713C	TestNo: H8008		Analysis Date: 12/7/2013	SeqNo: 10203						
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron		0.99	0.020	1.000	0	99.0	70	130	0.9900	0	30	

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- O RSD is greater than RSDLimit
- S Spike Recovery outside accepted recovery limits

D Dilution was required
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits

DF Dilution Factor
ND Not Detected at the RL
RL Reporting Limit



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QC SUMMARY REPORT

Work Order: 1312006
09-Dec-13

Client: Geologic Services and Consultants, Inc.
Project: Acorn 8th Street Food Store

Sample ID	SampType:	MBLK	TestCode:	BTEX_W	Units:	mg/L	Prep Date:	RunNo:			
Client ID:	PQL	Batch ID:	TestNo:	SW8260B			Analysis Date:	SeqNo:			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.0010	0	0	0				0		
Toluene	ND	0.0010	0	0	0				0		
Ethyl benzene	ND	0.0010	0	0	0				0		
Xylenes, Total	ND	0.0010	0	0	0				0		
Surr: 4-Bromofluorobenzene	45		50.00		89.4	50	150				
Surr: Toluene-d8	47		50.00		93.3	50	150				

Sample ID	SampType:	LCS	TestCode:	BTEX_W	Units:	mg/L	Prep Date:	RunNo:			
Client ID:	PQL	Batch ID:	TestNo:	SW8260B			Analysis Date:	SeqNo:			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	0.056	0.0010	0.050	0	112	50	150		0		
Toluene	0.048	0.0010	0.050	0	96.8	50	150		0		
Ethyl benzene	0.046	0.0010	0.050	0	91.8	50	150		0		
Xylenes, Total	0.13	0.0010	0.15	0	85.0	50	150		0		
Surr: 4-Bromofluorobenzene	46		50.00		91.3	50	150				
Surr: Toluene-d8	45		50.00		91.0	50	150				

Sample ID	SampType:	LCSD	TestCode:	BTEX_W	Units:	mg/L	Prep Date:	RunNo:			
Client ID:	PQL	Batch ID:	TestNo:	SW8260B			Analysis Date:	SeqNo:			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	0.051	0.0010	0.050	0	103	50	150	0.056	8.94	30	
Qualifiers:	B	Analyze detected in the associated Method Blank		D	Dilution was required		DF	Dilution Factor			
	E	Value above quantitation range		H	Holding times for preparation or analysis exceeded		ND	Not Detected at the RL			
	O	RSD is greater than RSDlimit		R	RPD outside accepted recovery limits		RL	Reporting Limit			
	S	Spike Recovery outside accepted recovery limits									



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QC SUMMARY REPORT

Work Order: 1312006
09-Dec-13

Client: Geologic Services and Consultants, Inc.
Project: Acorn 8th Street Food Store

Sample ID	LCSD	SampType: LCSD	TestCode: BTEX_W	Units: mg/L	Prep Date:	Analysis Date:	BatchID:	RunNo: 734	SeqNo: 10087			
Client ID:	LCSS02	Batch ID: R734	TestNo: SW8260B				R734					
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Toluene		0.049	0.0010	0.050	0	97.3	50	150	0.048	0.515	30	
Ethyl benzene		0.045	0.0010	0.050	0	90.5	50	150	0.046	1.43	30	
Xylenes, Total		0.12	0.0010	0.15	0	83.1	50	150	0.13	2.32	30	
Surr: 4-Bromofluorobenzene		44		50.00		88.8	50	150		0	30	
Surr: Toluene-d8		45		50.00		90.0	50	150		0	30	

Qualifiers: B Analyte detected in the associated Method Blank
E Value above quantitation range
O RSD is greater than RSDDlimit
S Spike Recovery outside accepted recovery limits

D Dilution was required.
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
DF Dilution Factor
ND Not Detected at the RL
RL Reporting Limit



Fax: 303.830.7653
www.ecs-corp.com

2 Oakwood Park Plaza, Suite 100
Castle Rock, Colorado 80104
Phone: 303.850.7606

Chain of Custody Record (COC)

COC # 12541

NOTIFICATION DEED

Aanno Mazzetti
Sampled By:

chimant Mattox:

Austrian Economics

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
	Laura Hughes	Geologic Services & Consultants, Inc.	12/03/13	10:30 AM
	Cathi Gett	R4P	12/3/13	1:32 PM
	Sam Watley	R4P	12/3/13	1:33 PM
	Sam Watley	R4P	12/3/13	1:41 PM
	Vicki Clark Evans	R4P	12/3/13	1:41 PM
		FC		

IN WITNESS WHEREOF, the parties have signed this Agreement.

Preservative: H = HCl N = Nitric SF = Sulfuric

***Container: A = Amber B = Brass C = Clear Glass P = Plastic S = Soil Jar SU = Summa PF = PUF T = Tedlar TU = Tube OT = Other

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